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(54) Title: COMBINATIONS FOR CARDIOVASCULAR INDICATIONS			
(57) Abstract			
<p>The present invention provides combinations of cardiovascular therapeutic compounds for the prophylaxis or treatment of cardiovascular disease including hypercholesterolemia and atherosclerosis. Combinations disclosed include an ileal bile acid transport inhibitor combined with a cholesterol ester transport protein (CETP) inhibitor, a fibrat acid derivative, a nicotinic acid derivative, a microsomal triglyceride transfer protein inhibitor, a cholesterol absorption antagonist, a phytosterol, a stanol, an antihypertensive agent, or others. Further combinations include a CETP inhibitor with a fibrat acid derivative, a nicotinic acid derivative, a bile acid sequestrant, a microsomal triglyceride transfer protein inhibitor, a cholesterol absorption antagonist, or others.</p>			

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Combinations for Cardiovascular Indications

This application claims priority of U.S. provisional application Ser. No. 60/113,955 filed Dec. 23, 1998.

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BACKGROUND OF THE INVENTION

Field of the Invention

The present invention relates to methods of treating cardiovascular diseases, and specifically relates to combinations of compounds, compositions, and methods for their use in medicine, particularly in the prophylaxis and treatment of hyperlipidemic conditions such as are associated with atherosclerosis, hypercholesterolemia, and other factors in coronary artery disease in mammals including hypertension. More particularly, the invention relates to ileal bile acid transporter (IBAT) inhibitors, cholesteryl ester transfer protein (CETP) activity inhibitors, fibrin acid derivatives (fibrates), nicotinic acid derivatives, microsomal triglyceride transfer protein (MTP) inhibitors, cholesterol absorption antagonists, stanols, phytosterols, or antihypertensive agents.

Description of Related Art

It is well-settled that hyperlipidemic conditions associated with elevated concentrations of total cholesterol and low-density lipoprotein (LDL) cholesterol are major risk factors for coronary heart disease and particularly atherosclerosis. Numerous studies have demonstrated that a low plasma concentration of high density lipoprotein (HDL) cholesterol is a powerful risk factor for the development of atherosclerosis (Barter and Rye, *Atherosclerosis*, 121, 1-12 (1996)). HDL is one of the

major classes of lipoproteins that function in the transport of lipids through the blood. The major lipids found associated with HDL include cholesterol, cholestryl ester, triglycerides, phospholipids and fatty acids. The other classes of lipoproteins found in the blood are low density lipoprotein (LDL), intermediate density lipoprotein (IDL), and very low density lipoprotein (VLDL). Since low levels of HDL cholesterol increase the risk of atherosclerosis, methods for elevating plasma HDL cholesterol would be therapeutically beneficial for the treatment of atherosclerosis and other diseases associated with accumulation of lipid in the blood vessels. These diseases include, but are not limited to, coronary heart disease, peripheral vascular disease, and stroke.

Atherosclerosis underlies most coronary artery disease (CAD), a major cause of morbidity and mortality in modern society. High LDL cholesterol (above about 180 mg/dl) and low HDL cholesterol (below 35 mg/dl) have been shown to be important contributors to the development of atherosclerosis. Other diseases or risk factors, such as peripheral vascular disease, stroke, and hypercholesterolaemia are negatively affected by adverse HDL/LDL ratios.

Interfering with the recirculation of bile acids from the lumen of the intestinal tract is found to reduce the levels of serum cholesterol in a causal relationship. Epidemiological data has accumulated which indicates such reduction leads to an improvement in the disease state of atherosclerosis. Stedronsky, in "Interaction of bile acids and cholesterol with nonsystemic agents having hypocholesterolemic properties," Biochimica et Biophysica Acta, 1210, 255-287 (1994) discusses the biochemistry,

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physiology and known active agents surrounding bile acids and cholesterol.

Transient pathophysiologic alterations are shown to be consistent with interruption of the enterohepatic circulation of bile acids in humans with an inherited lack of IBAT activity, as reported by Heubi, J.E., et al. See "Primary Bile Acid Malabsorption: Defective in Vitro Ileal Active Bile Acid Transport", Gastroenterology, 83, 804-11 (1982).

10 In another approach to the reduction of recirculation of bile acids, the ileal bile acid transport system is a putative pharmaceutical target for the treatment of hypercholesterolemia based on an interruption of the enterohepatic circulation with specific transport
15 inhibitors (Kramer, et al., "Intestinal Bile Acid Absorption" The Journal of Biological Chemistry, 268 (24), 18035-46 (1993)).

In several individual patent applications, Hoechst Aktiengesellschaft discloses polymers of various naturally occurring constituents of the enterohepatic circulation system and their derivatives, including bile acid, which inhibit the physiological bile acid transport with the goal of reducing the LDL cholesterol level sufficiently to be effective as pharmaceuticals and, in particular for use
25 as hypocholesterolemic agents. The individual Hoechst patent applications which disclose such bile acid transport inhibiting compounds are each separately listed below.

30 R1. Canadian Patent Application No. 2,025,294.
R2. Canadian Patent Application No. 2,078,588.
R3. Canadian Patent Application No. 2,085,782.
R4. Canadian Patent Application No. 2,085,830.
RS. EP Application No. 0 379 161.

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R6. EP Application No. 0 549 967.
R7. EP Application No. 0 559 064.
R8. EP Application No. 0 563 731.

5 Selected benzothiepines are disclosed in world patent application number WO 93/321146 for numerous uses including fatty acid metabolism and coronary vascular diseases.

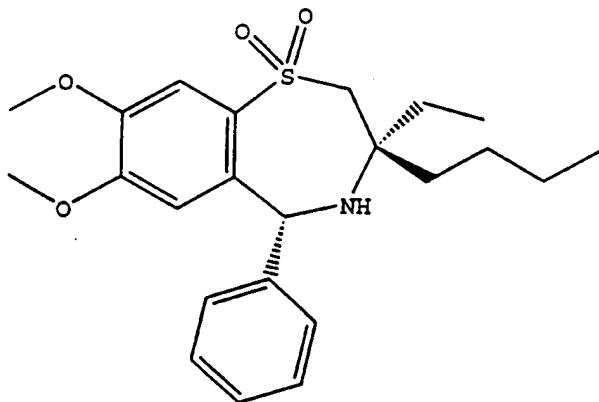
Other selected benzothiepines are known for use as
10 hypolipaemic and hypocholesterolaemic agents, especially for the treatment or prevention of atherosclerosis as disclosed in application No. EP 508425. A French patent application, FR 2661676 discloses additional benzothiepines for use as hypolipaemic and
15 hypocholesterolaemic agents. Furthermore, patent application no. WO 92/18462 lists other benzothiepines for use as hypolipaemic and hypocholesterolaemic agents. U.S. Patent No. 5,994,391 (Lee et al.) Each of the benzothiepine hypolipaemic and hypocholesterolaemic agents
20 described in these individual patent applications is limited by an amide bonded to the carbon adjacent the phenyl ring of the fused bicyclobenzothiepine ring.

Further benzothiepines useful for the treatment of hypercholesterolemia and hyperlipidemia are disclosed in
25 patent application no. PCT/US95/10863. More benzothiepines useful for the prophylaxis and treatment of hypercholesterolemia and hyperlipidemia as well as pharmaceutical compositions of such benzothiepines are described in PCT/US97/04076. Still further benzothiepines
30 and compositions thereof useful for the prophylaxis and treatment of hypercholesterolemia and hyperlipidemia are described in U.S. Application Serial No. 08/816,065.

In vitro bile acid transport inhibition is disclosed to correlate with hypolipidemic activity in The Wellcome

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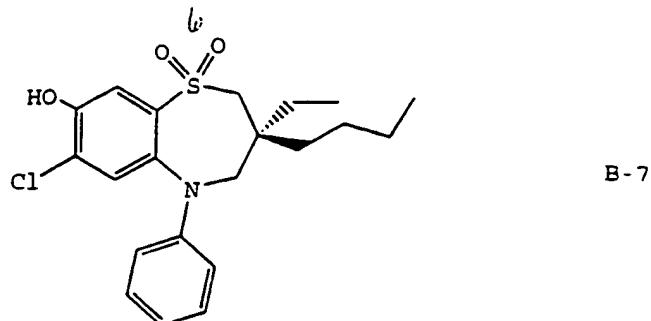
Foundation Limited disclosure of the Patent Application
 No. WO 93/16055 for "Hypolipidemic Benzothiazepine
 Compounds." That publication describes a number of
 hypolipidemic benzothiazepine compounds. Additional
 5 hypolipidemic benzothiazepine compounds (particularly
 2,3,4,5-tetrahydrobenzo-1-thi-4-azepine compounds) are
 disclosed in Patent Application No. WO 96/05188. A
 particularly useful benzothiazepine disclosed in WO
 96/05188 is the compound of formula B-2. Further
 10 hypolipidemic benzothiazepine compounds are described in
 Patent Application No. WO 96/16051.



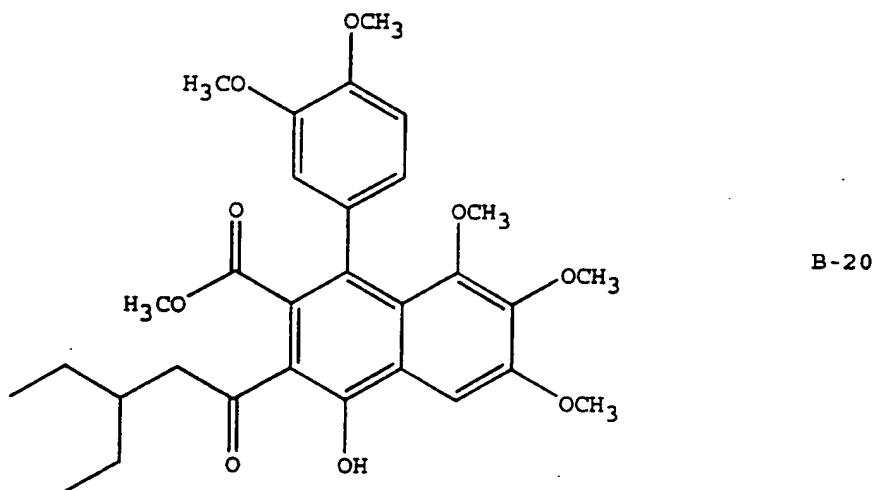
B-2

(3R,5R)-3-butyl-3-ethyl-2,3,4,5-tetrahydro-
 7,8-dimethoxy-5-phenyl-1-4-benzothiazepine
 1,1-dioxide

15 Other benzothiazepine compounds useful for control of
 cholesterol are 2,3,4,5-tetrahydrobenzo-1-thi-5-azepine
 IBAT inhibitor compounds described in PCT Patent
 Application No. WO 99/35135. Included in that description
 is the compound of formula B-7.



Further IBAT inhibitor compounds include a class of naphthalene IBAT inhibitor compounds, described by T. Ichihashi et al. in J. Pharmacol. Exp. Ther., 284(1), 43-50 (1998). In this class, S-8921 (methyl 1-(3,4-dimethoxyphenyl)-3-(3-ethylvaleryl)-4-hydroxy-6,7,8-trimethoxy-2-naphthoate) is particularly useful. The structure of S-8921 is shown in formula B-20. Further naphthalene compounds or lignin derivatives useful for the treatment or prophylaxis of hyperlipidemia or atherosclerosis are described in PCT Patent Application No. WO 94/24087.



15 Another class of lipid-lowering drug is an anti-obesity drug. An example of an antiobesity drug is orlistat. Orlistat is described in European Patent No. EP 0 129 748.

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Inhibition of cholesteryl ester transfer protein (CETP) has been shown to effectively modify plasma HDL/LDL ratios, and is expected to check the progress and/or formation of certain cardiovascular diseases.

5 CETP is a plasma protein that facilitates the movement of cholesteryl esters and triglycerides between the various lipoproteins in the blood (Tall, J. Lipid Res., 34, 1255-74 (1993)). The movement of cholesteryl ester from HDL to LDL by CETP has the effect of lowering HDL
10 cholesterol. It therefore follows that inhibition of CETP should lead to elevation of plasma HDL cholesterol and lowering of plasma LDL cholesterol, thereby providing a therapeutically beneficial plasma lipid profile. Evidence of this effect is described in
15 McCarthy, Medicinal Res. Revs., 13, 139-59 (1993). Further evidence of this effect is described in Sitori, Pharmac. Ther., 67, 443-47 (1995)). This phenomenon was first demonstrated by Swenson et al., (J. Biol. Chem., 264, 14318 (1989)) with the use of a monoclonal antibody
20 that specifically inhibits CETP. In rabbits, the antibody caused an elevation of the plasma HDL cholesterol and a decrease in LDL cholesterol. Son et al. (Biochim. Biophys. Acta, 795, 743-480 (1984)) describe proteins from human plasma that inhibit CETP.
25 U.S. Patent 5,519,001, herein incorporated by reference, issued to Kushwaha et al., describes a 36 amino acid peptide derived from baboon apo C-1 that inhibits CETP activity. Cho et al. (Biochim. Biophys. Acta 1391, 133-144 (1998)) describe a peptide from hog plasma that
30 inhibits human CETP. Bonin et al. (J. Peptide Res., 51, 216-225 (1998)) disclose a decapeptide inhibitor of CETP. A depsipeptide fungal metabolite is disclosed as a CETP inhibitor by Hedge et al. in Bioorg. Med. Chem. Lett., 8, 1277-80 (1998).

There have been several reports of non-peptidic compounds that act as CETP inhibitors. Barrett et al. (J. Am. Chem. Soc., 118, 7863-63 (1996)) describe cyclopropane-containing CETP inhibitors. Further 5 cyclopropane-containing CETP inhibitors are described by Kuo et al. (J. Am. Chem. Soc., 117, 10629-34 (1995)). Pietzonka et al. (Bioorg. Med. Chem. Lett., 6, 1951-54 (1996)) describe phosphonate-containing analogs of cholesteryl ester as CETP inhibitors. Coval et al. 10 (Bioorg. Med. Chem. Lett., 5, 605-610 (1995)) describe Wiedendiol-A and -B, and related sesquiterpene compounds as CETP inhibitors. Lee et al. (J. Antibiotics, 49, 693-96 (1996)) describe CETP inhibitors derived from an insect fungus. Busch et al. (Lipids, 25, 216-220, 15 (1990)) describe cholesteryl acetyl bromide as a CETP inhibitor. Morton and Zilversmit (J. Lipid Res., 35, 836-47 (1982)) describe that p-chloromercuriphenyl sulfonate, p-hydroxymercurobenzoate and ethyl mercurithiosalicylate inhibit CETP. Connolly et al. 20 (Biochem. Biophys. Res. Comm., 223, 42-47 (1996)) describe other cysteine modification reagents as CETP inhibitors. Xia et al. describe 1,3,5-triazines as CETP inhibitors (Bioorg. Med. Chem. Lett., 6, 919-22 (1996)). Bisgaier et al. (Lipids, 29, 811-8 (1994)) 25 describe 4-phenyl-5-tridecyl-4H-1,2,4-triazole-thiol as a CETP inhibitor. Additional triazole CETP inhibitors are described in U.S. Patent Application Serial No. 09/153,360, herein incorporated by reference. Sikorski et al. disclosed further novel CETP inhibitors in PCT 30 Patent Application No. WO 9914204.

Substituted 2-mercaptoaniline amide compounds can be used as CETP inhibitors and such therapeutic compounds are described by H. Shinkai et al. in PCT Patent Application No. WO 98/35937.

Some substituted heteroalkylamine compounds are known as CETP inhibitors. In European Patent Application No. 796846, Schmidt et al. describe 2-aryl-substituted pyridines as cholesterol ester transfer protein inhibitors useful as cardiovascular agents. One substituent at C₃ of the pyridine ring can be an hydroxyalkyl group. In European Patent Application No. 801060, Dow and Wright describe heterocyclic derivatives substituted with an aldehyde addition product of an alkylamine to afford 1-hydroxy-1-amines. These are reported to be β3-adrenergic receptor agonists useful for treating diabetes and other disorders. In Great Britain Patent Application No. 2305665, Fisher et al. disclose 3-agonist secondary amino alcohol substituted pyridine derivatives useful for treating several disorders including cholesterol levels and atherosclerotic diseases. In European Patent Application No. 818448 (herein incorporated by reference), Schmidt et al. describe tetrahydroquinoline derivatives as cholesterol ester transfer protein inhibitors. European Patent Application No. 818197, Schmek et al. describe pyridines with fused heterocycles as cholesterol ester transfer protein inhibitors. Brandes et al. in German Patent Application No. 19627430 describe bicyclic condensed pyridine derivatives as cholesterol ester transfer protein inhibitors. In PCT Patent Application No. WO 9839299, Muller-Gliemann et al. describe quinoline derivatives as cholesteryl ester transfer protein inhibitors.

Polycyclic compounds that are useful as CETP inhibitors are also disclosed by A. Oomura et al. in Japanese Patent No. 10287662. For example, therapeutic compounds having the structures C-1 and C-8 were prepared by culturing *Penicillium spp.*

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Cycloalkylpyridines useful as CETP inhibitors are disclosed by Schmidt et al. in European Patent No. EP 818448. For example, the therapeutic compound having the structure C-9 is disclosed as being particularly effective as a CETP inhibitor.

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Substituted tetrahydronaphthalene compounds useful as CETP inhibitors are described in PCT Patent Application No. WO 9914174. Specifically described in that disclosure as a useful CETP inhibitor is (8S)-3-
10 cyclopentyl-1-(4-fluorophenyl)-2-[(S)-fluoro(4-trifluoromethylphenyl)methyl]-8-hydroxy-6-spiroclobutyl-5,6,7,8-tetrahydronaphthalene.

Some 4-heteroaryl-tetrahydroquinolines useful as CETP inhibitors are described in PCT Patent Application 15 No. WO 9914215. For example, that disclosure describes 3-(4-trifluoromethylbenzoyl)-5,6,7,8-tetrahydroquinolin-5-one as a useful CETP inhibitor.

In another approach to the reduction of total cholesterol, use is made of the understanding that HMG CoA 20 reductase catalyzes the rate-limiting step in the biosynthesis of cholesterol (The Pharmacological Basis of Therapeutics, 9th ed., J.G. Hardman and L.E. Limberd, ed., McGraw-Hill, Inc., New York, pp. 884-888 (1996), herein incorporated by reference). HMG CoA reductase inhibitors 25 (including the class of therapeutics commonly called "statins") reduce blood serum levels of LDL cholesterol by competitive inhibition of this biosynthetic step (M.S. Brown, et al., *J. Biol. Chem.*, 253, 1121-28 (1978), herein incorporated by reference). Several statins have been 30 developed or commercialized throughout the world.

Mevastatin was among the first of the statins to be developed and it is described in U.S. Patent No. 3,983,140 (herein incorporated by reference). Lovastatin, another important HMG CoA reductase inhibitor, is described in

U.S. patent no. 4,231,938 (herein incorporated by reference). Simvastatin is described in U.S. patent no. 4,444,784 (herein incorporated by reference). Each of these HMG CoA reductase inhibitors contains a six-membered lactone function which apparently mimics the structure of HMG CoA in competition for the reductase. The HMG CoA reductase inhibitor class of cholesterol-lowering drugs is further exemplified by a group of drugs which contain 2,4-dihydroxyheptanoic acid functionalities rather than the lactone. One member of this group is pravastatin, described in U.S. patent no. 4,346,227 (herein incorporated by reference). Another HMG CoA reductase inhibitor which contains a 2,4-dihydroxyheptanoic acid group is fluvastatin, described in U.S. patent no. 5,354,772 (herein incorporated by reference). Warnings of side effects from use of HMG CoA reductase inhibitors include liver dysfunction, skeletal muscle myopathy, rhabdomyolysis, and acute renal failure. Some of these effects are exacerbated when HMG CoA reductase inhibitors are combined with fibrates or nicotinic acid.

Fibric acid derivatives comprise another class of drugs which have effects on lipoprotein levels. Among the first of these to be developed was clofibrate, disclosed in U.S. patent no. 3,262,850. Clofibrate is the ethyl ester of p-chlorophenoxyisobutyric acid. A widely used drug in this class is gemfibrozil, disclosed in U.S. patent no. 3,674,836. Gemfibrozil frequently is used to decrease triglyceride levels or increase HDL cholesterol concentrations (The Pharmacological Basis of Therapeutics, 30 p. 893). Fenofibrate (U.S. patent no. 4,058,552) has an effect similar to that of gemfibrozil, but additionally decreases LDL levels. Ciprofibrate (U.S. patent no. 3,948,973) has similar effects to that of fenofibrate. Another drug in this class is bezafibrate (U.S. patent no.

3,781,328). Warnings of side effects from use of fibric acid derivatives include gall bladder disease (cholelithiasis), rhabdomyolysis, and acute renal failure. Some of these effects are exacerbated when fibrates are 5 combined with HMG CoA reductase inhibitors.

Probucol is a powerful antioxidant which has shown the ability to lower serum cholesterol levels and cause regression of xanthomas in patients having homozygous familial hypercholesterolemia (A. Yamamoto, et al., Am. J. 10 Cardiol., 57, 29H-35H (1986)). However, treatment with probucol alone sometimes shows erratic control of LDL and frequent lowering of HDL (The Pharmacological Basis of Therapeutics, p. 891). Probucol is contraindicated for patients with progressive myocardial damage and/or 15 ventricular arrhythmias.

A class of materials which operates by another mechanism to lower LDL cholesterol comprises bile acid sequestering agents. Such agents are typically anion exchange polymers administered orally to a patient. As 20 the agent passes through the gut, anions of bile acids are sequestered by the agent and excreted. Such sequestering has been speculated to prevent reabsorption by the gut, for example the ileum, thereby preventing conversion of the bile acids into cholesterol. One such bile acid 25 sequestering agent is cholestyramine, a styrene-divinylbenzene copolymer containing quaternary ammonium cationic groups capable of binding bile acids. It is believed that cholestyramine binds the bile acids in the intestinal tract, thereby interfering with their normal 30 enterohepatic circulation. This effect is described by Reihner et al., in "Regulation of hepatic cholesterol metabolism in humans: stimulatory effects of cholestyramine on HMG-CoA reductase activity and low density lipoprotein receptor expression in gallstone

patients", Journal of Lipid Research, 31, 2219-2226
(1990). Further description of this effect is found in Suckling et al. in "Cholesterol Lowering and bile acid excretion in the hamster with cholestyramine treatment", 5 Atherosclerosis, 89, 183-90 (1991). This results in an increase in liver bile acid synthesis because of the liver using cholesterol as well as an upregulation of the liver LDL receptors which enhances clearance of cholesterol and decreases serum LDL cholesterol levels.

10 Another bile acid sequestering agent is colestipol, a copolymer of diethylenetriamine and 1-chloro-2,3-epoxypropane. Colestipol is described in U.S. Patent No. 3,692,895. A frequent side effect of colestipol and of cholestyramine is gastric distress.

15 Additional bile acid sequestering agents are described in U.S. Patent No. 5,703,188, assigned to Geltex Pharmaceuticals Inc. For example, one such bile acid sequestering agent is 3-methacrylamidopropyltrimethylammonium chloride

20 copolymerized with ethylene glycol dimethacrylate to yield a copolymer.

Yet another class materials proposed as bile acid sequestering agents comprises particles comprising amphiphilic copolymers having a crosslinked shell domain 25 and an interior core domain (Patent application no. PCT/US 97/11610). Structures and preparation of such crosslinked amphiphilic copolymers are described in PCT/US97/11345. Such particles have been given the common name of "knedels" (K.B. Thurmond et al., J. Am. Chem. Soc., 118 30 (30), 7239-40 (1996)).

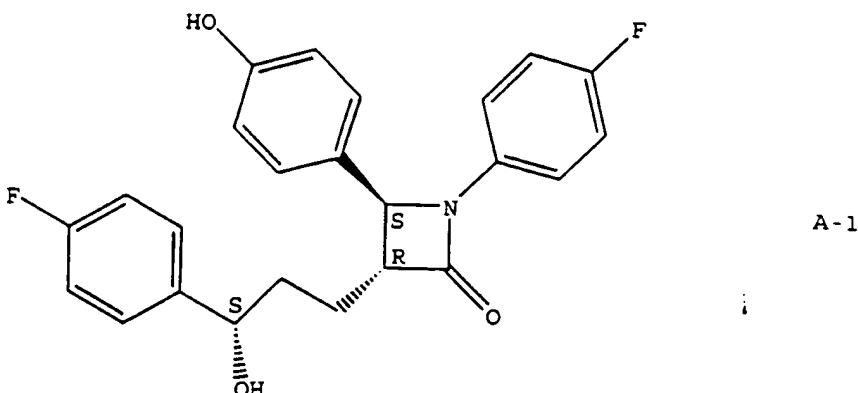
Nicotinic acid (niacin) is a B-complex vitamin reported as early as 1955 to act as a hypolipidemic agent (R. Altschl, et al., Arch. Biochem. Biophys., 54, 558-9 (1955)). It is sometimes used to raise low HDL levels and

lower VLDL and LDL levels. ¹⁴ Useful commercial formulations of nicotinic acid include Niacor, Niaspan, Nicobid, Nicolar, Slo-Niacin. Nicotinic acid is contraindicated for patients having hepatic dysfunction, active peptic ulcer, or arterial bleeding. Another compound in this class useful for cardiovascular indications is nericitrol (T. Kazumi et al., *Curr. Ther. Res.*, 55, 546-51). J. Sasaki et al. (*Int. J. Clin. Pharm. Ther.*, 33 (7), 420-26 (1995)) describes a reduction in cholesterol ester transfer activity by nericitrol monotherapy. Acipimox (5-methyl pyrazine-2-carboxylic acid 4-oxide, U.S. Patent No. 4,002,750) is structurally similar to nicotinic acid and has antihyperlipidemic activity.

A study by Wetterau et al. (*Science*, 282, 751-54 (1998)) describes a number of alkylpiperidine compounds, isoindole compounds, and fluorene compounds useful for inhibiting microsomal triglyceride transfer protein (MTP inhibitors). Rodents and Watanabe-heritable hyperlipidemic rabbits treated with these compounds show decreased production of lipoprotein particles.

Cholesterol absorption antagonists may also be useful for the treatment of prophylaxis of cardiovascular diseases such as hypercholesterolemia or atherosclerosis. For example, azetidinones such as SCH 58235 ([3R-[3 α (S*), 4 β]]-1-(4-fluorophenyl)-3-[3-(4-fluorophenyl)-3-hydroxypropyl]-4-(4-hydroxyphenyl)-2-azetidinone) (formula A-1), described in *J. Med. Chem.*, 41(6), 973-980 (1998), are useful cholesterol absorption antagonists. SCH 58235 is further described by Van Heek et al. in *J. Pharmacol. Exp. Ther.*, 283(1), 157-163 (1997). Further azetidinone compounds useful for treatment or prophylaxis of cardiovascular disease are described in U.S. Patent No. 5,767,115.

15



[3R-[3a(S*),4b]]-1-(4-fluorophenyl)-3-[3-(4-fluorophenyl)-3-hydroxypropyl]-4-(4-hydroxyphenyl)-2-azetidinone

Phytosterols, and especially stanols have been shown
 5 to effectively inhibit cholesterol absorption from the
 gastrointestinal tract, and to negatively affect
 cholesterol synthesis. Phytosterols are expected to slow
 or inhibit the progress and formation of certain
 cardiovascular conditions, including hyperlipidemic
 10 conditions such as hypercholesterolemia and
 atherosclerosis. Stanols are 5 α saturated derivatives of
 phytosterols. (Straub, U.S. Patent No. 5,244,887). It
 has been suggested that phytosterols lower blood
 cholesterol levels by reducing the absorption of
 15 cholesterol from the intestine (Ling and Jones,
 "Minireview Dietary Phytosterols: A Review of Metabolism,
 Benefits and Side Effects," Life Sciences, 57 (3), 195-206
 (1995)).

Sitostanol, clionastanol, 22,23-dihydrobrassica-
 20 stanol, campestanol, and mixtures thereof contained in
 food additives intended to reduce cholesterol absorption
 from foods and beverages containing cholesterol are
 described by Straub in U.S. Patent Number 5,244,887.

A beta-sitostanol fatty acid ester or fatty acid ester mixture which lowers cholesterol in serum is described by Miettinen et al. in U.S. Patent Number 5,502,045.

5 A stanol composition containing in sitostanol and campestanol which effectively lowers serum cholesterol levels when incorporated into edibles is described by Wester et al. in WO 9806405.

A therapeutic composition of one or more oxysterols 10 and a suitable carrier to inhibit cholesterol absorption from the diet is described by Haines in U.S. Patent Number 5,929,062.

Cardiovascular disease is also caused or aggravated by hypertension. Hypertension is defined as persistently 15 high blood pressure. Generally, adults are classified as being hypertensive when systolic blood pressure is persistently above 140 mmHg or when diastolic blood pressure is above 90 mmHg. Long-term risks for cardiovascular mortality increase in a direct relationship 20 with persistent blood pressure (E. Braunwald, Heart Disease, 5th ed., W.B. Saunders & Co., Philadelphia, 1997, pp. 807-823). Various mechanisms have been advantageously exploited to control hypertension. For example, useful antihypertensive agents can include, without limitation, 25 an adrenergic blocker, a mixed alpha/beta adrenergic blocker, an alpha adrenergic blocker, a beta adrenergic blocker, an adrenergic stimulant, an angiotensin converting enzyme (ACE) inhibitor, an angiotensin II receptor antagonist, a calcium channel blocker, a 30 diuretic, or a vasodilator. A particularly useful antihypertensive agent is eplerenone (see, for example, U.S. Patent No. 4,559,332). Eplerenone lowers blood pressure by functioning as a diuretic. Eplerenone was formerly called epoxymexrenone.

Some combination therapies for the treatment of cardiovascular disease have been described in the literature. Combinations of IBAT inhibitors with HMG CoA reductase inhibitors useful for the treatment of 5 cardiovascular disease are disclosed in U.S. Patent Application No. 09/037,308 and in PCT Patent Application No. 98/40375.

A combination therapy of fluvastatin and nericitrol is described by J. Sasaki et al. (Id.). Those researchers 10 conclude that the combination of fluvastatin with nericitrol "at a dose of 750 mg/day dose does not appear to augment or attenuate beneficial effects of fluvastatin."

L. Cashin-Hemphill et al. (J. Am. Med. Assoc., 264 15 (23), 3013-17 (1990)) describe beneficial effects of a combination therapy of colestipol and niacin on coronary atherosclerosis. The described effects include nonprogression and regression in native coronary artery lesions.

20 A combination therapy of acipimox and simvastatin shows beneficial HDL effects in patients having high triglyceride levels (N. Hoogerbrugge et al., J. Internal Med., 241, 151-55 (1997)).

Sitostanol ester margarine and pravastatin 25 combination therapy is described by H. Gylling et al. (J. Lipid Res., 37, 1776-85 (1996)). That therapy is reported to simultaneously inhibit cholesterol absorption and lower LDL cholesterol significantly in non-insulin-dependent diabetic men.

30 Brown et al. (New Eng. J. Med., 323 (19), 1289-1339 (1990)) describe a combination therapy of lovastatin and colestipol which reduces atherosclerotic lesion progression and increase lesion regression relative to lovastatin alone.

Scott (PCT Patent Application No. WO 99/11260) describes combinations of atorvastatin (an HMG CoA reductase inhibitor) with an antihypertensive agent for the treatment of angina pectoris, atherosclerosis, 5 combined hypertension and hyperlipidemia, and symptoms of cardiac risk.

Egan et al. (PCT Patent Application No. WO 96/40255) describe a combination therapy of an angiotension II antagonist and an epoxy-steroidal aldosterone antagonist. 10 The epoxy-steroidal aldosterone antagonist in the Egan application includes eplerenone.

The above references show continuing need to find safe, effective agents for the prophylaxis or treatment of cardiovascular diseases.

15

Summary of the Invention

To address the continuing need to find safe and effective agents for the prophylaxis and treatment of cardiovascular diseases, combination therapies of 20 cardiovascular drugs are now reported.

Among its several embodiments, the present invention provides a combination therapy comprising the use of a first amount of an IBAT inhibitor and a second amount of another cardiovascular therapeutic useful in the 25 prophylaxis or treatment of hyperlipidemia or atherosclerosis, wherein the first and second amounts together comprise an anti-hyperlipidemic condition effective amount or an anti-atherosclerotic condition effective amount of the compounds. For example one of the 30 many embodiments of the present invention is a therapeutic composition comprising first amount of an IBAT inhibitor and a second amount of a microsomal triglyceride transfer protein inhibitor (MTP inhibitor), wherein the first and second amounts together comprise an anti-hyperlipidemic

condition effective amount or an anti-atherosclerotic condition effective amount of the compounds. The IBAT inhibitor in the embodiments of this invention is preferably a benzothiepine IBAT inhibitor. In another 5 embodiment, the IBAT inhibitor can be a benzothiazepine IBAT inhibitor. In still another embodiment, the IBAT inhibitor can be a naphthalene IBAT inhibitor.

The present invention further provides a therapeutic composition comprising a first amount of an IBAT inhibitor 10 and a second amount of a cholesterol absorption antagonist, wherein the first and second amounts together comprise an anti-hyperlipidemic condition effective amount or an anti-atherosclerotic condition effective amount of the compounds.

15 The present invention further provides a therapeutic combination comprising a first amount of an ileal bile acid transport inhibiting compound and a second amount of an antihypertensive compound wherein the first amount and the second amount together comprise an anti-hyperlipidemic 20 condition effective amount, an anti-atherosclerotic condition effective amount, or an anti-hypercholesterolemic condition effective amount of the compounds.

In another embodiment, the present invention also 25 includes a therapeutic combination comprising a first amount of an ileal bile acid transport inhibiting compound and a second amount of an antiobesity compound wherein the first amount and the second amount together comprise an anti-hyperlipidemic condition effective amount, an anti- 30 atherosclerotic condition effective amount, or an anti-hypercholesterolemic condition effective amount of the compounds. For example, the antiobesity compound can comprise orlistat. Orlistat is described in European Patent No. EP 0 129 748.

Among its several embodiments, the present invention further provides a combination comprising a first amount of an IBAT inhibitor and a second amount of another cardiovascular therapeutic useful in the prophylaxis or treatment of hyperlipidemia or atherosclerosis, wherein the first and second amounts together comprise an anti-hyperlipidemic condition effective amount or an anti-atherosclerotic condition effective amount of the compounds. For example one of the many embodiments of the present invention is a combination comprising therapeutic dosages of an IBAT inhibitor and a phytosterol. A preferred embodiment of the present invention is a combination comprising therapeutic dosages of a benzothiepine IBAT inhibitor and a phytosterol. In another preferred embodiment, the present invention embraces a combination comprising an IBAT inhibitor and a stanol.

A still further embodiment of the instant invention comprises the use of any of the cardiovascular combination therapies described herein for the prophylaxis or treatment of hypercholesterolemia or atherosclerosis.

In another embodiment the present invention provides a method for the prophylaxis or treatment of a hyperlipidemic condition or disorder in a mammal which comprises administering a first amount of an ileal bile acid transport inhibitor compound and a second amount of a microsomal triglyceride transfer protein inhibiting compound wherein the first amount and the second amount together comprise an anti-hyperlipidemic condition effective amount, an anti-atherosclerotic condition effective amount, or an anti-hypercholesterolemic condition effective amount of the compounds.

In another embodiment the present invention provides a method for the prophylaxis or treatment of a hyperlipidemic condition or disorder in a mammal which

comprises administering a first amount of an ileal bile acid transport inhibitor compound and a second amount of a cholesterol absorption antagonist compound wherein the first amount and the second amount together comprise an 5 anti-hyperlipidemic condition effective amount, an anti-atherosclerotic condition effective amount, or an anti-hypercholesterolemic condition effective amount of the compounds.

In another embodiment the present invention provides
10 a method for the prophylaxis or treatment of a hyperlipidemic condition or disorder in a mammal which comprises administering a therapeutic combination comprising a first amount of an ileal bile acid transport inhibiting compound and a second amount of an 15 antihypertensive compound wherein the first amount and the second amount together comprise an anti-hyperlipidemic condition effective amount of the compounds.

In another embodiment the present invention provides
a method for the prophylaxis or treatment of a
20 hyperlipidemic condition or disorder in a mammal which comprises administering a first amount of an ileal bile acid transport inhibitor compound and a second amount of a phytosterol compound wherein the first amount and the second amount together comprise an anti-hyperlipidemic 25 condition effective amount, an anti-atherosclerotic condition effective amount, or an anti-hypercholesterolemic condition effective amount of the compounds. Preferably the phytosterol compound comprises a stanol.

30 In another embodiment the present invention provides a kit for achieving a therapeutic effect in a mammal comprising an amount of an ileal bile acid transport inhibiting compound in a first unit dosage form; an amount of a microsomal triglyceride transfer protein inhibiting

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compound in a second unit dosage form; and container means for containing said first and second unit dosage forms.

In another embodiment the present invention provides a kit for achieving a therapeutic effect in a mammal comprising an amount of an ileal bile acid transport inhibiting compound in a first unit dosage form; an amount of a cholesterol absorption antagonist compound in a second unit dosage form; and container means for containing said first and second unit dosage forms.

10 In another embodiment the present invention provides a kit for achieving a therapeutic effect in a mammal comprising an amount of an ileal bile acid transport inhibiting compound in a first unit dosage form; an amount of an antihypertensive compound in a second unit dosage 15 form; and container means for containing said first and second unit dosage forms.

In another embodiment the present invention provides a kit for achieving a therapeutic effect in a mammal comprising an amount of an ileal bile acid transport 20 inhibiting compound in a first unit dosage form; an amount of a phytosterol compound in a second unit dosage form; and container means for containing said first and second unit dosage forms. Preferably the phytosterol compound comprises a stanol.

25 Further scope of the applicability of the present invention will become apparent from the detailed description provided below. However, it should be understood that the following detailed description and examples, while indicating preferred embodiments of the 30 invention, are given by way of illustration only since various changes and modifications within the spirit and scope of the invention will become apparent to those skilled in the art from this detailed description.

23
DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENTS

The following detailed description is provided to aid those skilled in the art in practicing the present invention. Even so, this detailed description should not be construed to unduly limit the present invention as modifications and variations in the embodiments discussed herein can be made by those of ordinary skill in the art without departing from the spirit or scope of the present inventive discovery.

The contents of each of the references cited herein, including the contents of the references cited within these primary references, are herein incorporated by reference in their entirety.

15

a. Definitions

The following definitions are provided in order to aid the reader in understanding the detailed description of the present invention:

20 "Benzothiepine IBAT inhibitor" means an ileal bile acid transport inhibitor which comprises a therapeutic compound comprising a 2,3,4,5-tetrahydro-1-benzothiepine 1,1-dioxide structure or a 2,3,4,5-tetrahydro-1-benzothiepine 1-oxide structure.

25 "Benzothiazepine IBAT inhibitor" means an ileal bile acid transport inhibitor which comprises a therapeutic compound comprising a 2,3,4,5-tetrahydro-1-benzothi-4-azepine 1,1-dioxide structure or a 2,3,4,5-tetrahydro-1-benzothi-5-azepine 1,1-dioxide structure.

30 "Naphthalene IBAT inhibitor" means an ileal bile acid transport inhibitor which comprises a therapeutic compound comprising a substituted naphthalene structure.

"Nicotinic acid derivative" means a therapeutic compound comprising a pyridine-3-carboxylate structure or

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a pyrazine-2-carboxylate structure, including acid forms, salts, esters, zwitterions, and tautomers. Nicotinic acid derivatives include, for example, nicotinic acid (niacin), nericitrol, and acipimox.

5 A "phytosterol" means any steroid naturally or synthetically derived having about C₈ to about C₁₀ carbon aliphatic side chains at position 17, and at least one alcoholic hydroxyl group (Miller-Keane, Encyclopedia & Dictionary of Medicine, Nursing, & Allied Health, 5th 10 ed.). As used herein, the term "phytosterol" includes stanols.

"Stanol" means a class of phytosterols having a 5 α -saturation.

"Combination therapy" means the administration of two 15 or more therapeutic agents to treat a hypertensive condition or a hyperlipidemic condition, for example atherosclerosis and hypercholesterolemia. Such administration encompasses co-administration of these therapeutic agents in a substantially simultaneous manner, 20 such as in a single dosage form having a fixed ratio of active ingredients or in multiple, separate dosage forms for each inhibitor agent. In addition, such administration also encompasses use of each type of therapeutic agent in a sequential manner. In either case, 25 the treatment regimen will provide beneficial effects of the drug combination in treating the hypertensive condition or the hyperlipidemic condition.

The phrase "therapeutically effective" is intended to qualify the combined amount of inhibitors in the 30 combination therapy. This combined amount will achieve the goal of reducing or eliminating the hypertensive condition or the hyperlipidemic condition.

"Therapeutic compound" means a compound useful in the prophylaxis or treatment of a hypertensive condition or a

25
hyperlipidemic condition, including atherosclerosis and hypercholesterolemia.

5 b. Combinations

The combinations of the present invention will have a number of uses. For example, through dosage adjustment and medical monitoring, the individual dosages of the 10 therapeutic compounds used in the combinations of the present invention will be lower than are typical for dosages of the therapeutic compounds when used in monotherapy. The dosage lowering will provide advantages including reduction of side effects of the individual 15 therapeutic compounds when compared to the monotherapy. In addition, fewer side effects of the combination therapy compared with the monotherapies will lead to greater patient compliance with therapy regimens.

Another use of the present invention will be in 20 combinations having complementary effects or complementary modes of action. For example, IBAT inhibitors frequently lower LDL lipoprotein but also lower HDL lipoprotein. In contrast, CETP inhibitors raise HDL. A therapeutic combination of an IBAT inhibitor and a CETP inhibitor 25 will, when dosages are optimally adjusted, lower LDL yet maintain or raise HDL.

Compounds useful in the present invention encompass a wide range of therapeutic compounds. IBAT inhibitors useful in the present invention are disclosed in patent 30 application no. PCT/US95/10863, herein incorporated by reference. More IBAT inhibitors are described in PCT/US97/04076, herein incorporated by reference. Still further IBAT inhibitors useful in the present invention are described in U.S. Application Serial No. 08/816,065,

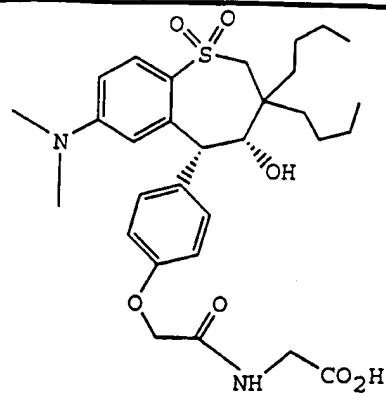
herein incorporated by reference. More IBAT inhibitor compounds useful in the present invention are described in WO 98/40375, herein incorporated by reference. Additional IBAT inhibitor compounds useful in the present invention 5 are described in U.S. Application Serial No. 08/816,065, herein incorporated by reference. IBAT inhibitors of particular interest in the present invention are shown in Table 1, as well as the diastereomers, enantiomers, racemates, salts, and tautomers of the IBAT inhibitors of 10 Table 1.

Table 1.

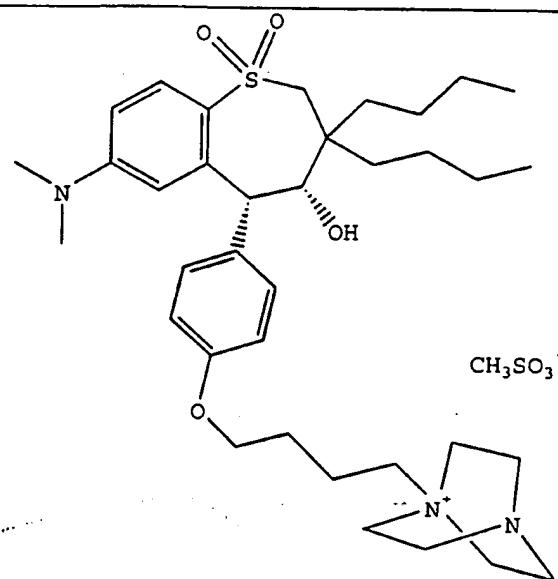
Compound Number	Structure
B-1	
B-2	<p>(3R,5R)-3-butyl-3-ethyl-2,3,4,5-tetrahydro-7,8-dimethoxy-5-phenyl-1H-1,4-benzothiazepine 1,1-dioxide</p>

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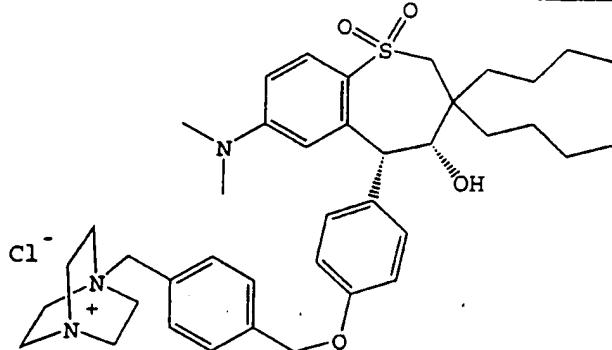
B-3



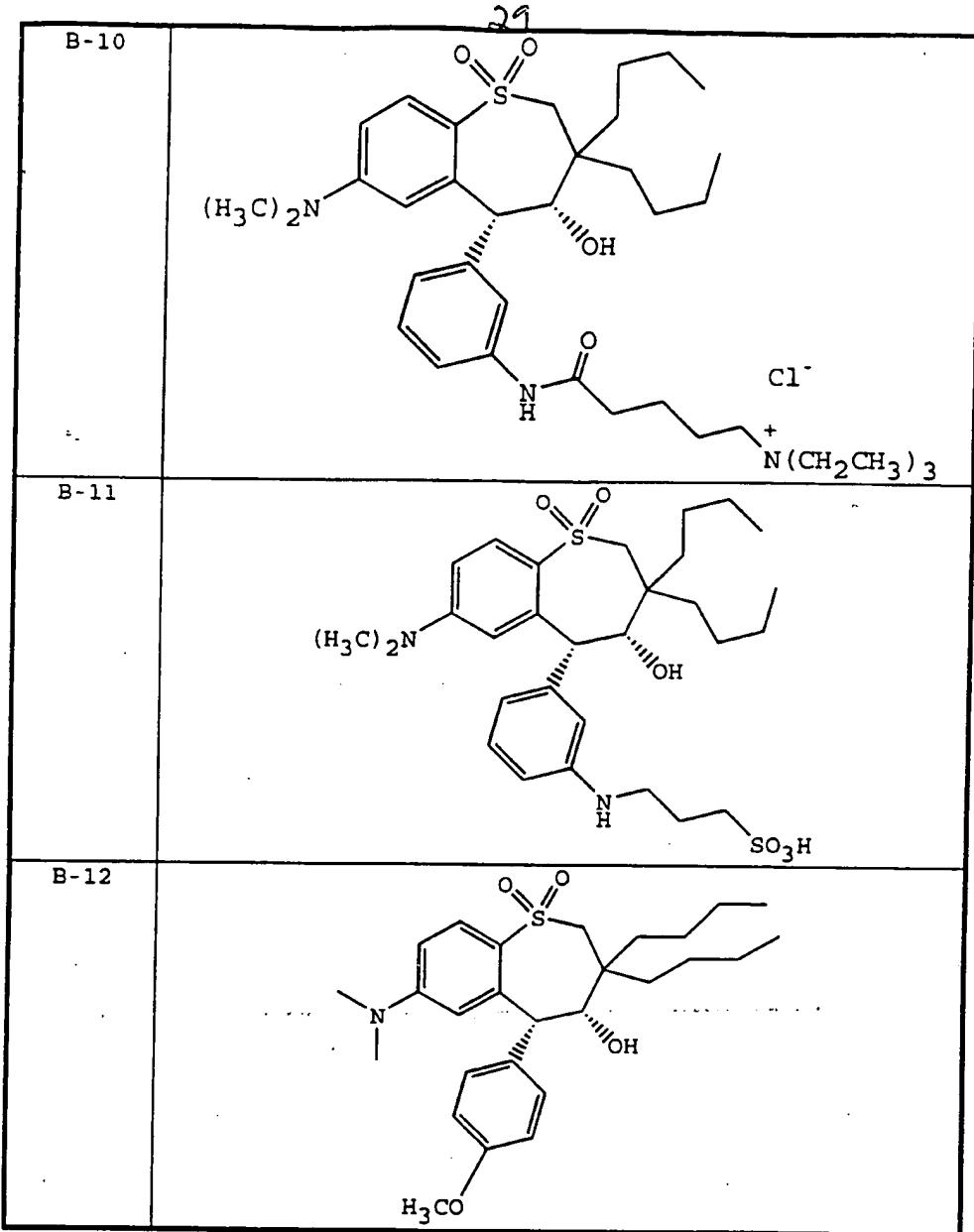
B-4



B-5



B-6	
B-7	
B-8	
B-9	



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U.S. patents referenced in Table 4 are each herein
incorporated by reference.

Table 4.

Compound Number	Common Name	CAS Registry Number	U.S. Patent Reference for Compound Per Se
G-41	Clofibrate	637-07-0	3,262,850
G-70	Fenofibrate	49562-28-9	4,058,552
G-38	Ciprofibrate	52214-84-3	3,948,973
G-20	Bezafibrate	41859-67-0	3,781,328
G-78	Gemfibrozil	25182-30-1	3,674,836

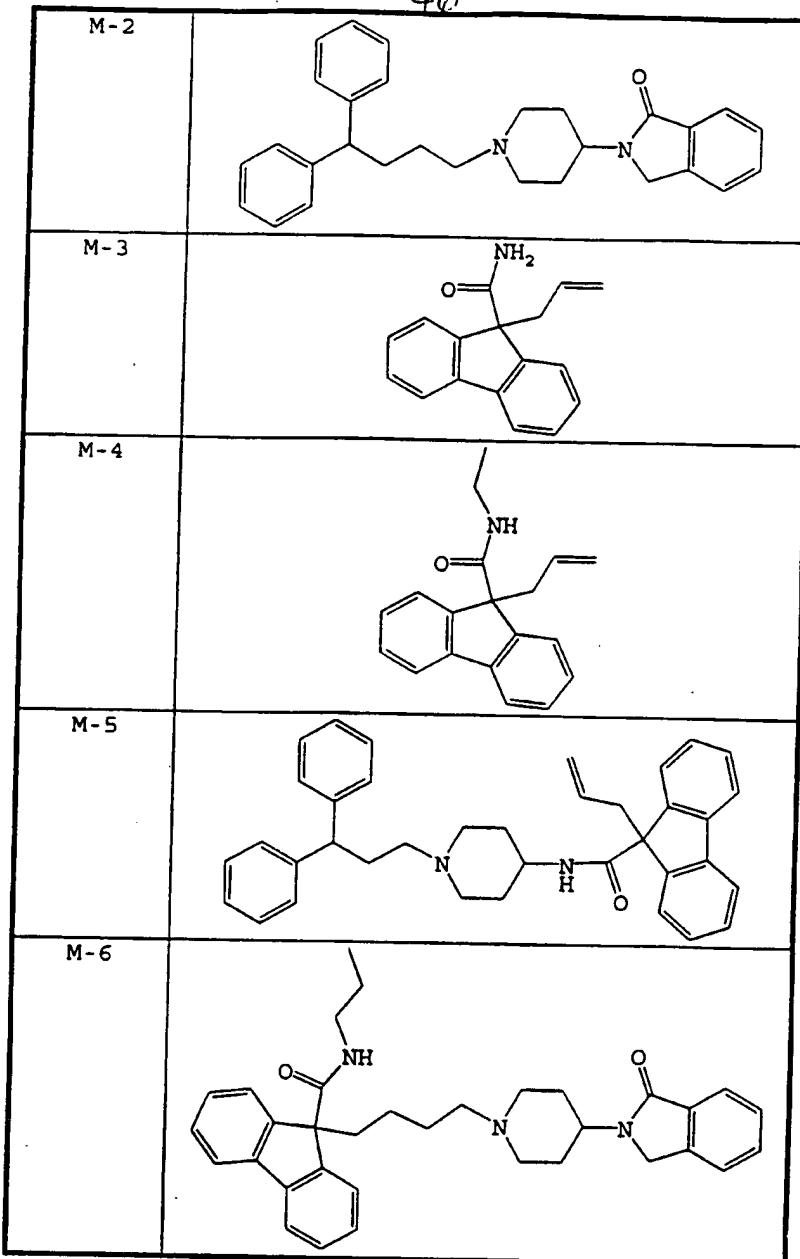
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MTP inhibitor compounds useful in the combinations and methods of the present invention comprise a wide variety of structures and functionalities. Some of the MTP inhibitor compounds of particular interest for use in the present 10 invention are shown in Table 4b. The therapeutic compounds of Table 4b can be used in the present invention in a variety of forms, including acid form, salt form, racemates, enantiomers, zwitterions, and tautomers. Descriptions of the therapeutic compounds of Table 4b can be found in 15 Science, 282, 23 October 1998, pp. 751-754, herein incorporated by reference.

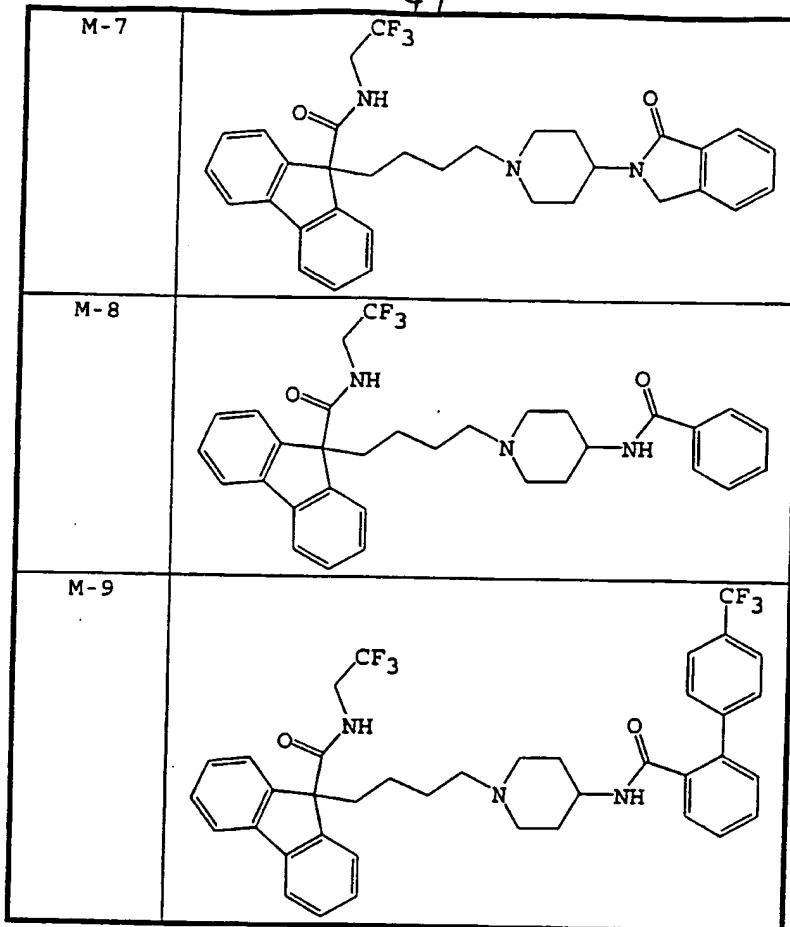
Table 4b.

Compound Number	Structure
M-1	

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Cholesterol absorption antagonist compounds useful in the combinations and methods of the present invention 5 comprise a wide variety of structures and functionalities. Some of the cholesterol absorption antagonist compounds of particular interest for use in the present invention are described in U.S. Patent No. 5,767,115, herein incorporated by reference. Further cholesterol absorption 10 antagonist compounds of particular interest for use in the present invention, and methods for making such cholesterol absorption antagonist compounds are described in U.S. Patent No. 5,631,365, herein incorporated by reference. A

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particularly preferred cholesterol absorption antagonist for use in the combinations and methods of the present invention is SCH 58235 ([3R-[3 α (S*),4 β]]-1-(4-fluorophenyl)-3-[3-(4-fluorophenyl)-3-hydroxypropyl]-4-(4-hydroxyphenyl)-2-azetidinone).

In another embodiment the present invention includes a therapeutic combination comprising a first amount of an ileal bile acid transport inhibiting compound and a second amount of a phytosterol compound wherein the first amount and the second amount together comprise an anti-hyperlipidemic condition effective amount, an anti-atherosclerotic condition effective amount, or an anti-hypercholesterolemic condition effective amount of the compounds. A number of phytosterols are described by Ling and Jones in "Dietary Phytosterols: A Review of Metabolism, Benefits and Side Effects," Life Sciences, 57 (3), 195-206 (1995). Without limitation, some phytosterols of particular use in the combination of the present invention are shown in Table 4c. Phytosterols are also referred to generally by Nes (Physiology and Biochemistry of Sterols, American Oil Chemists' Society, Champaign, Ill., 1991, Table 7-2). Especially preferred among the phytosterols for use in the combination of the present invention are saturated phytosterols or stanols. Additional stanols are also described by Nes (Id.) and are useful in the combination of the present invention. In the combination of the present invention, the phytosterol preferably comprises a stanol. In one preferred embodiment the stanol is campestanol. In another preferred embodiment the stanol is cholestanol. In another preferred embodiment the stanol is clionastanol. In another preferred embodiment the stanol is coprostanol. In another preferred embodiment the stanol is 22,23-dihydrobrassicastanol. In another preferred embodiment the

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stanol is epicholestanol. In another preferred embodiment the stanol is fucostanol. In another preferred embodiment the stanol is stigmastanol. In the combination of the present invention, the IBAT inhibitor is preferably a 5 benzothiazepine IBAT inhibitor. In one preferred embodiment, the benzothiazepine IBAT inhibitor is compound B-2. In another preferred embodiment, the benzothiazepine IBAT inhibitor is compound B-7. In yet another preferred embodiment, the IBAT inhibitor is a benzothiepine IBAT 10 inhibitor. Each of the following benzothiepine IBAT inhibitors represents a separate preferred embodiment of the present invention.

- B-1.
- B-3.
- 15 B-4.
- B-5.
- B-6.
- B-8.
- B-9.
- 20 B-10.
- B-11.
- B-12.
- B-13.
- B-14.
- 25 B-15.
- B-16.
- B-17.
- B-18.
- B-19.
- 30 B-21.
- B-22.
- B-23.
- B-24.
- B-25.

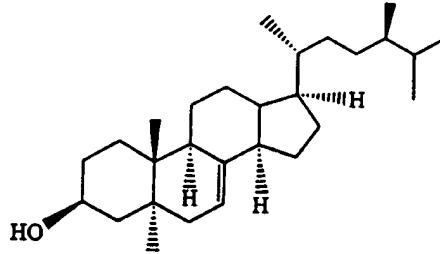
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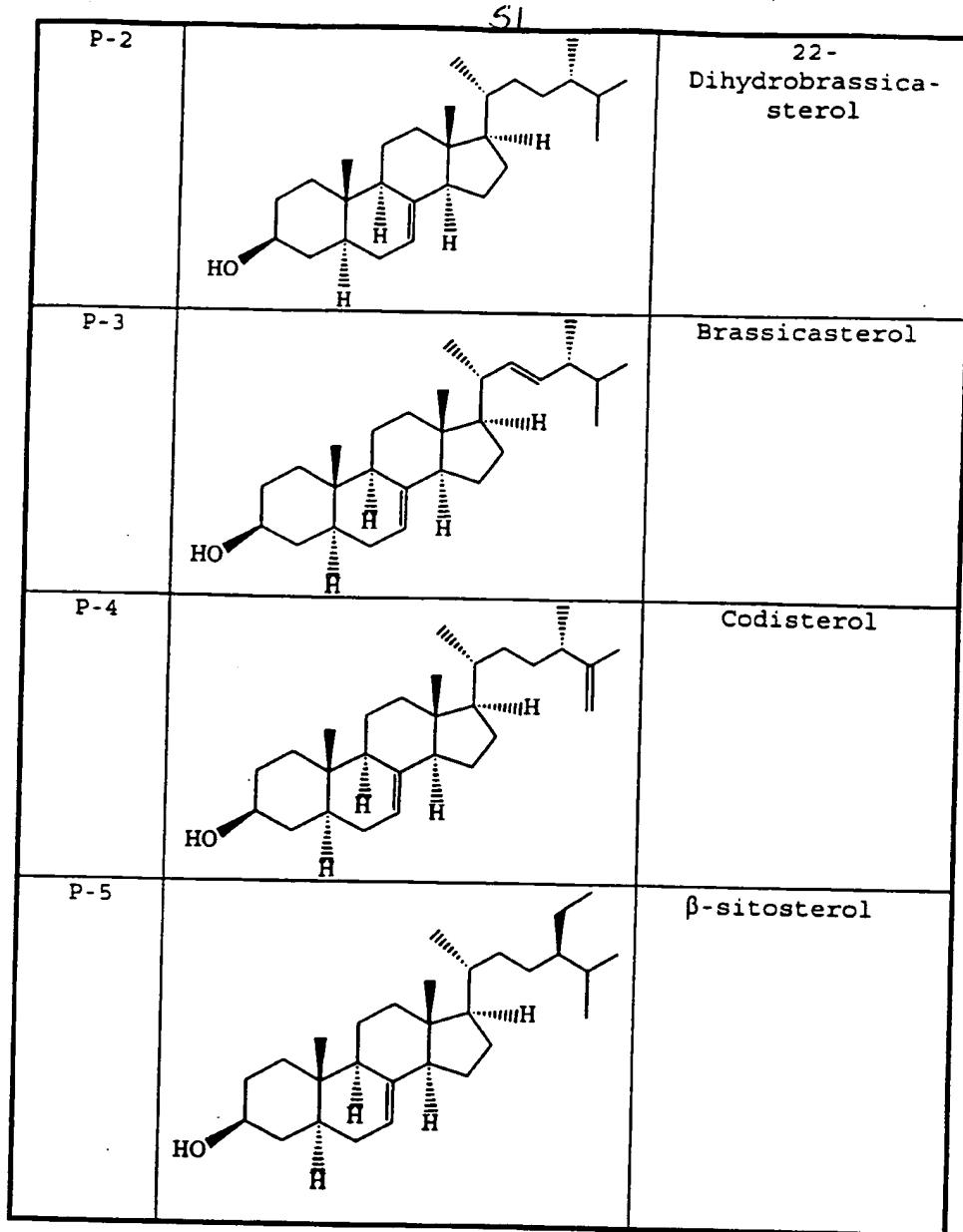
- B-26.
- B-27.
- B-28.
- B-29.
- 5 B-30.
- B-31.
- B-32.
- B-33.
- B-34.
- 10 B-35.
- B-36.
- B-37.
- B-38.
- B-39.

15 In yet another preferred embodiment, the IBAT inhibitor is a naphthalene IBAT inhibitor, for example, compound B-20.

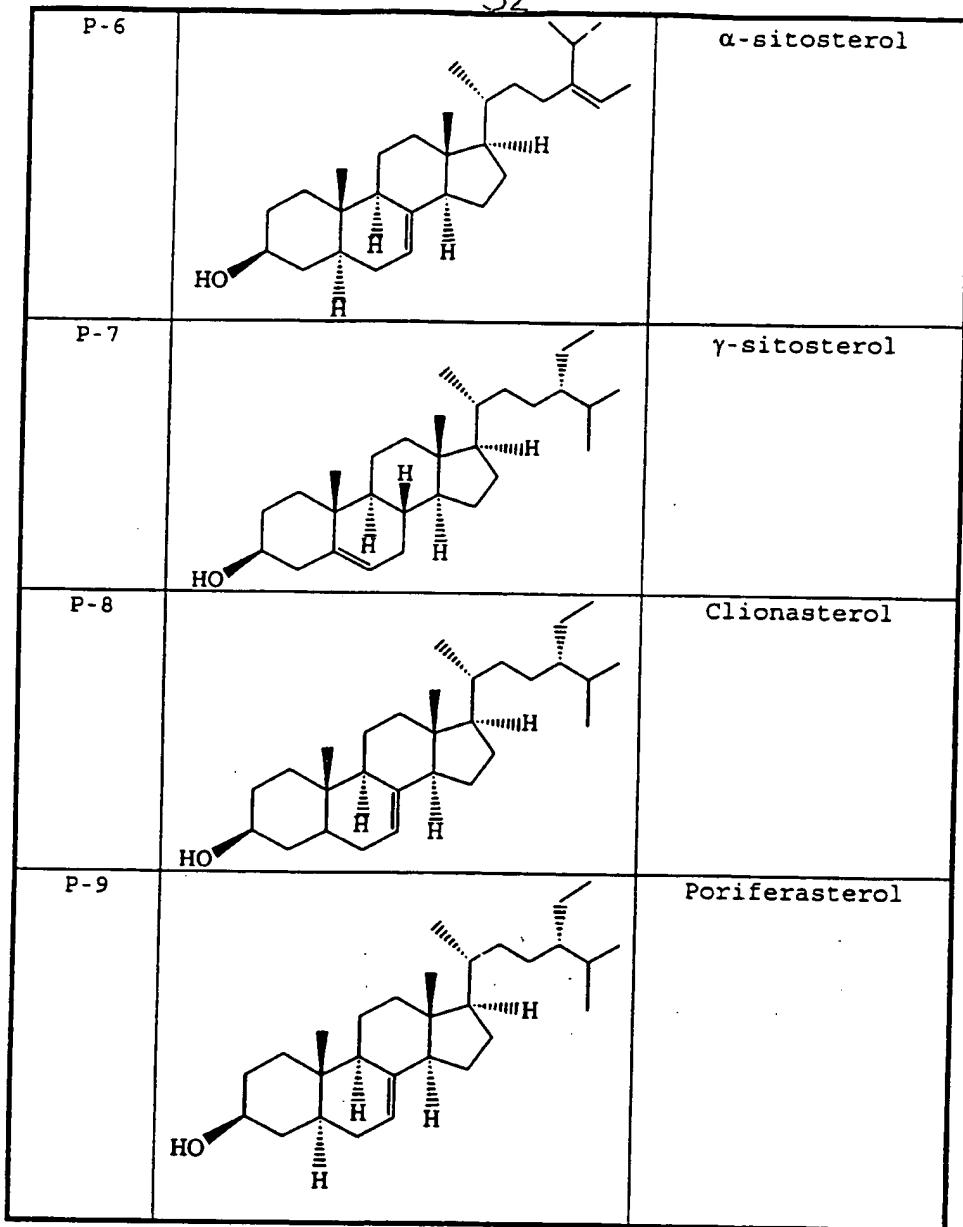
Table 4c.

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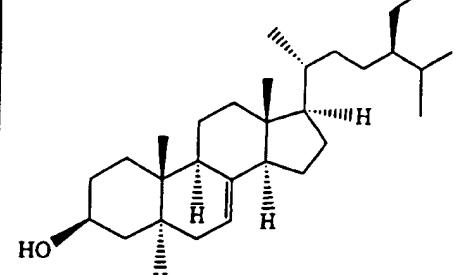
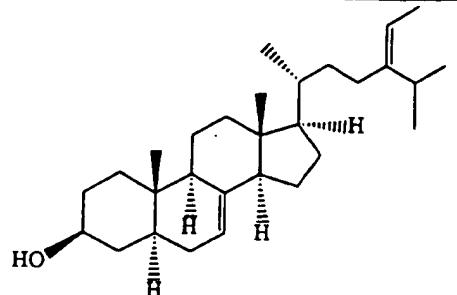
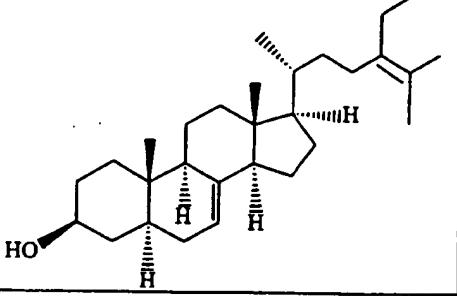
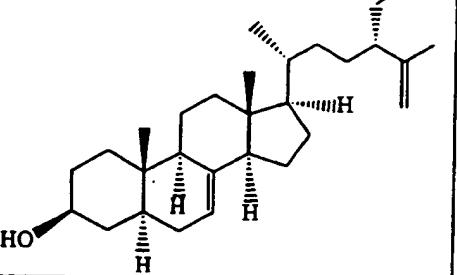
Com- ound No.	Compound Structure	Compound Name
P-1	 <p>The structure shows a steroid nucleus with a hydroxyl group (HO) at the C-22 position. The side chains are labeled with stereochemistry: C-10 is a methyl group, C-13 is a hydrogen atom, C-14 is a double bond, C-15 is a methyl group, C-16 is a hydrogen atom, C-17 is a methyl group, C-18 is a hydrogen atom, C-19 is a methyl group, and C-20 is a hydrogen atom.</p>	Campesterol

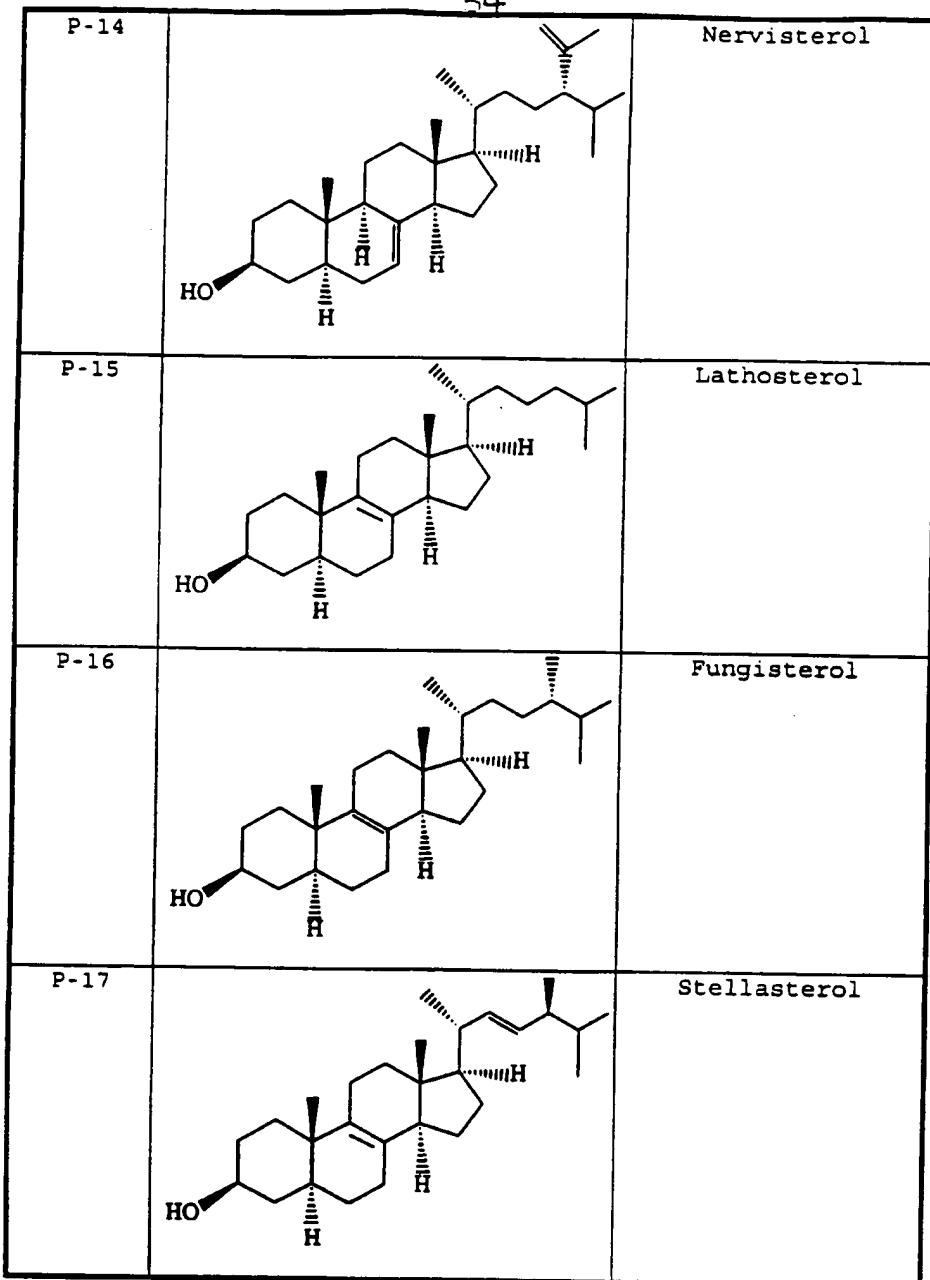


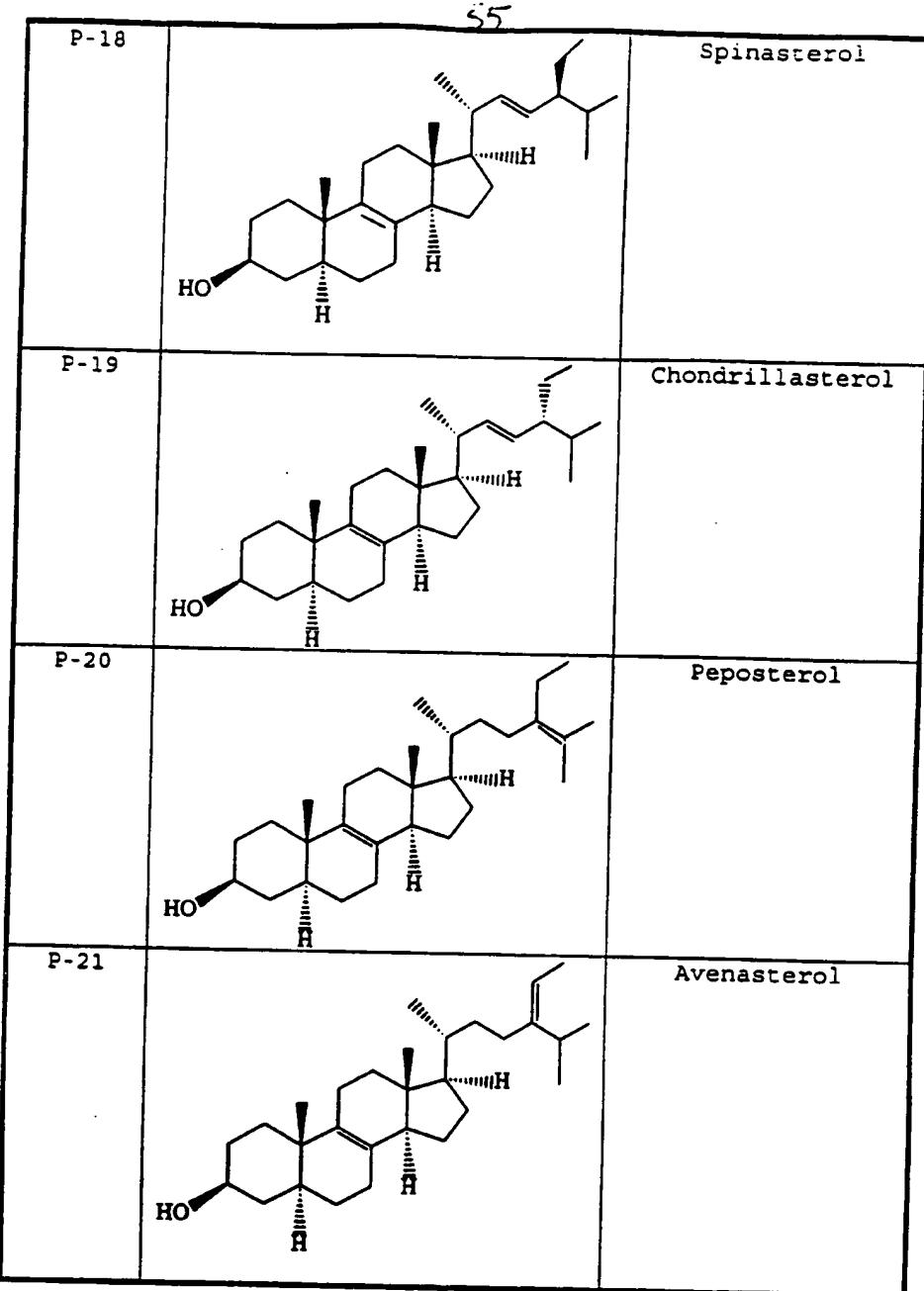
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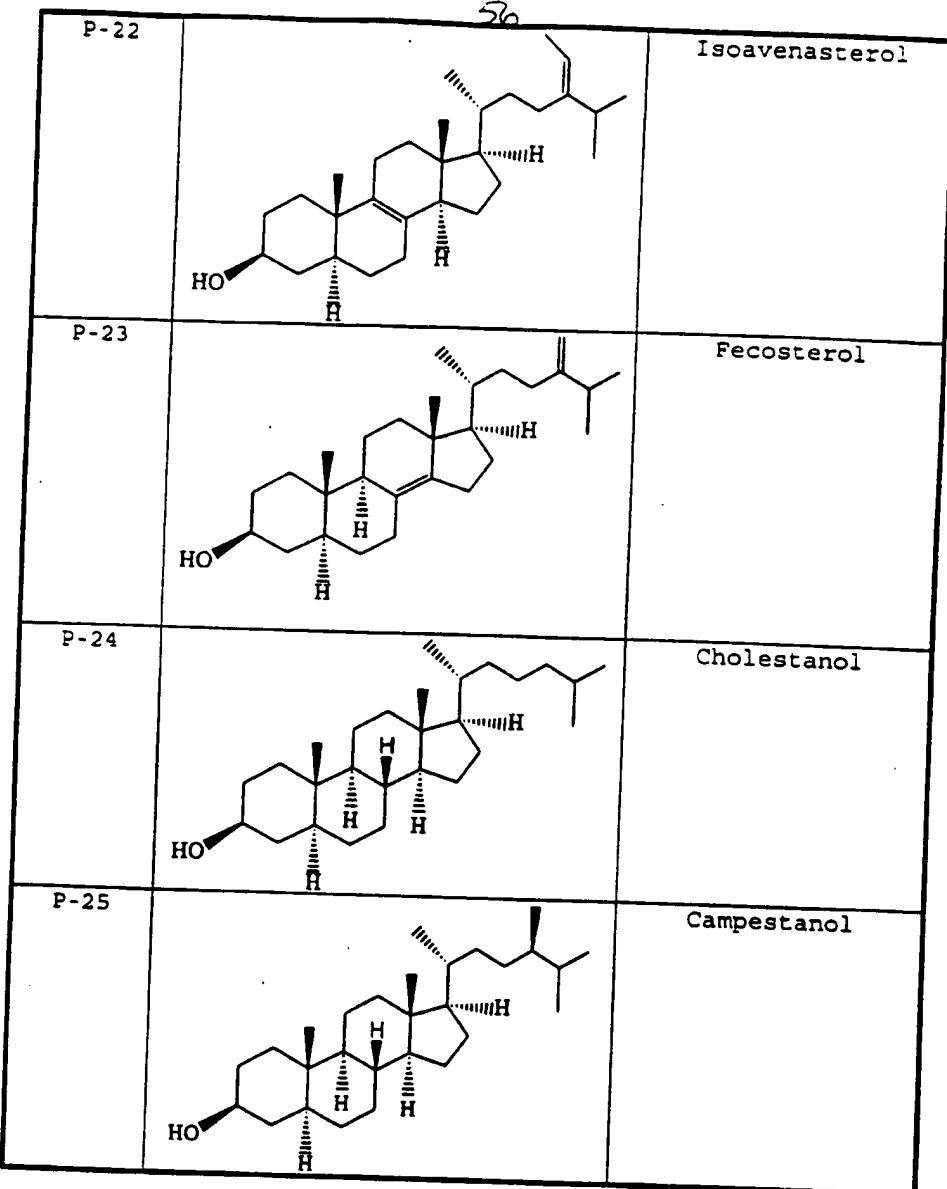


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P-10		Stigmasterol
P-11		Isofucosterol
P-12		Fucosterol
P-13		Clerosterol







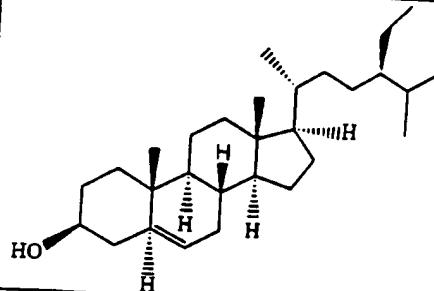
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P-26		24 β -Ethylcholestanol
P-27		24 α -Ethyl-22-dehydrocholestanol
P-28		24 β -Ethyl-22-dehydrocholestanol
P-29		24-Ethyl-24(25)-dehydrocholestanol

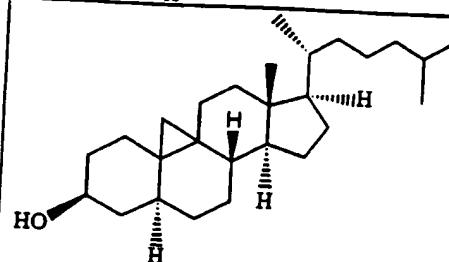
P-30	 A steroid nucleus with a hydroxyl group at C-3 and a double bond between C-24 and C-25. An ethyl side chain is attached to the C-24 position.	24 β -Ethyl-25-dehydrocholestano[1]
P-31	 A steroid nucleus with a hydroxyl group at C-3 and double bonds between C-22 and C-23, and between C-24 and C-25. An ethyl side chain is attached to the C-24 position.	24 β -Ethyl-22,25-bisdehydrocholestano[1]
P-32	 A steroid nucleus with a hydroxyl group at C-3 and a double bond between C-24 and C-25. A methyl group is attached to the C-25 position, and a methylene group is attached to the C-24 position.	24-Methylene-25-methylcholestano[1]
P-33	 A steroid nucleus with a hydroxyl group at C-3 and a double bond between C-24 and C-25. Two methyl groups are attached to the C-24 position.	24,24-Dimethylcholestano[1]

P-34

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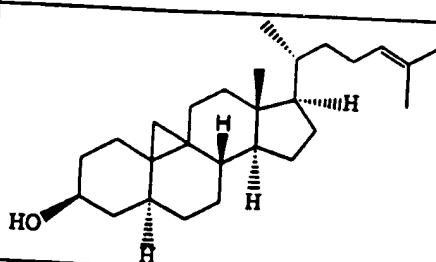
24 α -
Ethylcholestan-3 α -
ol

P-35

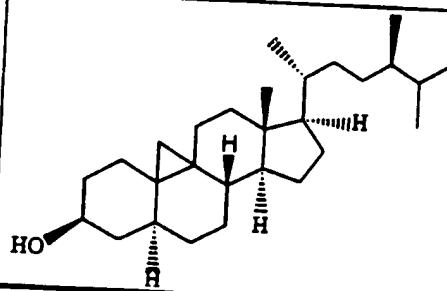


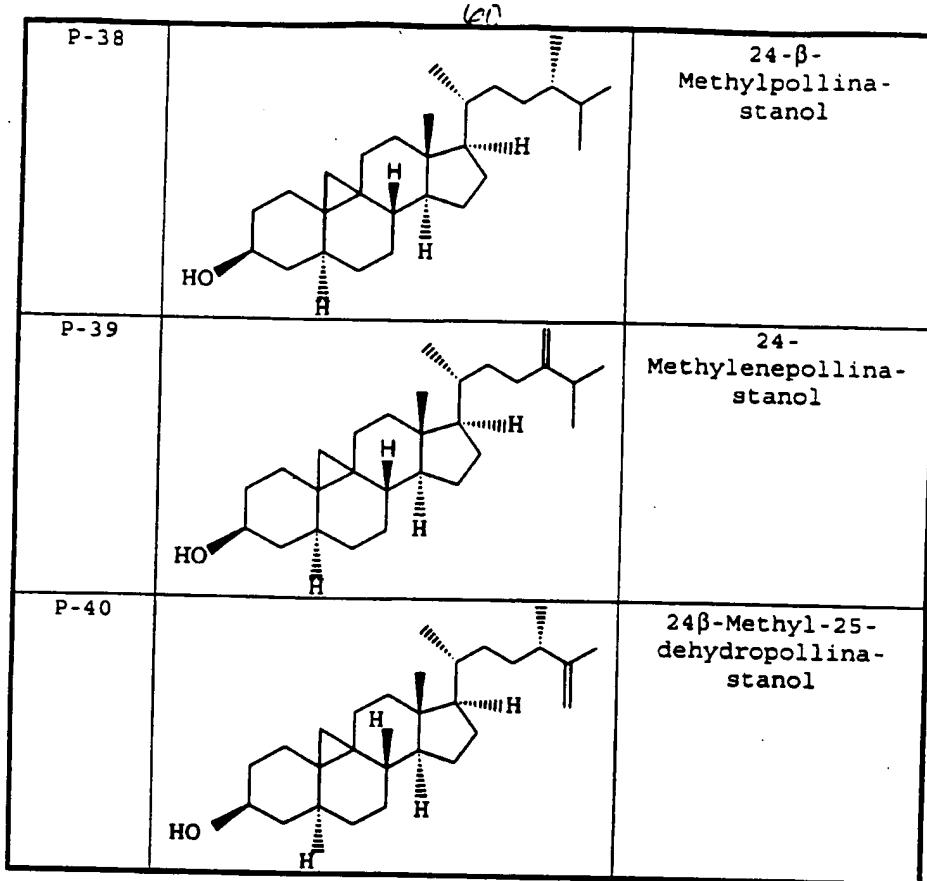
Pollinastanol

P-36

24-Dehydropollina-
stanol

P-37

24- α -
Methylpollina-
stanol



In another embodiment the present invention encompasses a therapeutic combination of an IBAT inhibitor and an antihypertensive agent. Hypertension is defined as persistently high blood pressure. Generally, adults are classified as being hypertensive when systolic blood pressure is persistently above 140 mmHg or when diastolic blood pressure is above 90 mmHg. Long-term risks for cardiovascular mortality increase in a direct relationship with persistent blood pressure. (E. Braunwald, Heart Disease, 5th ed., W.B. Saunders & Co., Philadelphia, 1997, pp. 807-823.) Blood pressure is a function of cardiac

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output and peripheral resistance of the vascular system
and can be represented by the following equation:

$$\text{BP} = \text{CO} \times \text{PR}$$

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wherein BP is blood pressure, CO is cardiac output, and PR is peripheral resistance. (Id., p. 816.) Factors affecting peripheral resistance include obesity and/or functional constriction. Factors affecting cardiac output 10 include venous constriction. Functional constriction of the blood vessels can be caused by a variety of factors including thickening of blood vessel walls resulting in diminishment of the inside diameter of the vessels. Another factor which affects systolic blood pressure is 15 rigidity of the aorta (Id., p. 811.)

Hypertension and atherosclerosis or other hyperlipidemic conditions often coexist in a patient. It is possible that certain hyperlipidemic conditions such as atherosclerosis can have a direct or indirect affect on 20 hypertension. For example, atherosclerosis frequently results in diminishment of the inside diameter of blood vessels. Furthermore, atherosclerosis frequently results in increased rigidity of blood vessels, including the aorta. Both diminished inside diameter of blood vessels 25 and rigidity of blood vessels are factors which contribute to hypertension.

Myocardial infarction is the necrosis of heart muscle cells resulting from oxygen deprivation and is usually caused by an obstruction of the supply of blood to the 30 affected tissue. For example, hyperlipidemia or hypercholesterolemia can cause the formation of atherosclerotic plaques which can cause obstruction of blood flow and thereby cause myocardial infarction. (Id., pp. 1185-1187.) Another major risk factor for myocardial

infarction is hypertension. ⁶² (*Id.*, p. 815.) In other words, hypertension and hyperlipidemic conditions such as atherosclerosis or hypercholesterolemia work in concert to cause myocardial infarction.

5 Coronary heart disease is another disease which is caused or aggravated by multiple factors including hyperlipidemic conditions and hypertension. Control of both hyperlipidemic conditions and hypertension are important to control symptoms or disease progression of
10 coronary heart disease.

Angina pectoris is acute chest pain which is caused by decreased blood supply to the heart. Decreased blood supply to the heart is known as myocardial ischemia. Angina pectoris can be the result of, for example,
15 stenosis of the aorta, pulmonary stenosis, and ventricular hypertrophy. Some antihypertensive agents, for example amlodipine, control angina pectoris by reducing peripheral resistance.

It is now disclosed that a therapy which controls
20 hypertension and which in combination controls hyperlipidemic conditions will reduce risk from cardiovascular disease or symptoms of heart disease, for example coronary heart disease, myocardial infarction, or angina pectoris. Therefore one embodiment of the present
25 invention is directed to a therapeutic combination comprising a first amount of an ileal bile acid transport inhibiting compound and a second amount of an antihypertensive agent compound wherein the first amount and the second amount together comprise an anti-
30 hyperlipidemic condition effective amount, an anti-atherosclerotic condition effective amount, or an anti-hypercholesterolemic condition effective amount of the compounds.

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Some antihypertensive agents useful in the present invention are shown in Table 5, without limitation. A wide variety of chemical structures are useful as antihypertensive agents in the combinations of the present invention and the agents can operate by a variety of mechanisms. For example, useful antihypertensive agents can include, without limitation, an andrenergic blocker, a mixed alpha/beta andrenergic blocker, an alpha andrenergic blocker, a beta andrenergic blocker, an andrenergic stimulant, an angiotensin converting enzyme (ACE) inhibitor, an angiotensin II receptor antagonist, a calcium channel blocker, a diuretic, or a vasodilator. Additional hypertensive agents useful in the present invention are described by R. Scott in U.S. Patent Application No. 60/057,276 (priority document for PCT Patent Application No. WO 99/11260), herein incorporated by reference.

Table 5.

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Compound Number	Antihypertensive Classification	Compound Name	Dosage
N-1	andrenergic blocker	phenoxybenzamine	1-250 mg/day
N-2	andrenergic blocker	guanadrel	5-60 mg/day
N-3	andrenergic blocker	guanethidine	
N-4	andrenergic blocker	reserpine	
N-5	andrenergic blocker	terazosin	0.1-60 mg/day
N-6	andrenergic blocker	prazosin	0.5-75 mg/day
N-7	andrenergic blocker	polythiazide	0.25-10 mg/day
N-8	andrenergic stimulant	methyldopa	100-4000 mg/day
N-9	andrenergic stimulant	methyldopate	100-4000 mg/day

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N-10	andrenergic stimulant	clonidine	0.1-2.5 mg/day
N-11	andrenergic stimulant	chlorthalidone	10-50 mg/day
N-12	andrenergic stimulant	guanfacine	0.25-5 mg/day
N-13	andrenergic stimulant	guanabenz	2-40 mg/day
N-14	andrenergic stimulant	trimethaphan	
N-15	alpha/beta andrenergic blocker	carvedilol	6-25 mg bid
N-16	alpha/beta andrenergic blocker	labetalol	10-500 mg/day
N-17	beta andrenergic blocker	propranolol	10-1000 mg/day
N-18	beta andrenergic blocker	metoprolol	10-500 mg/day
N-19	alpha andrenergic blocker	doxazosin	1-16 mg/day
N-20	alpha andrenergic blocker	phentolamine	
N-21	angiotensin converting enzyme inhibitor	quinapril	1-250 mg/day
N-22	angiotensin converting enzyme inhibitor	perindopril erbumine	1-25 mg/day
N-23	angiotensin converting enzyme inhibitor	ramipril	0.25-20 mg/day
N-24	angiotensin converting enzyme inhibitor	captopril	6-50 mg bid or tid
N-25	angiotensin converting enzyme inhibitor	trandolapril	0.25-25 mg/day
N-26	angiotensin converting enzyme inhibitor	fosinopril	2-80 mg/day
N-27	angiotensin converting enzyme inhibitor	lisinopril	1-80 mg/day
N-28	angiotensin converting enzyme inhibitor	moexipril	1-100 mg/day
N-29	angiotensin	enalapril	2.5-40 mg/day

	converting enzyme inhibitor		
N-30	angiotensin converting enzyme inhibitor	benazepril	10-80 mg/day
N-31	angiotensin II receptor antagonist	candesartan cilexetil	2-32 mg/day
N-32	angiotensin II receptor antagonist	inbesartan	
N-33	angiotensin II receptor antagonist	losartan	10-100 mg/day
N-34	angiotensin II receptor antagonist	valsartan	20-600 mg/day
N-35	calcium channel blocker	verapamil	100-600 mg/day
N-36	calcium channel blocker	diltiazem	150-500 mg/day
N-37	calcium channel blocker	nifedipine	1-200 mg/day
N-38	calcium channel blocker	nimodipine	5-500 mg/day
N-39	calcium channel blocker	delodipine	
N-40	calcium channel blocker	nicardipine	1-20 mg/hr i.v.; 5-100 mg/day oral
N-41	calcium channel blocker	isradipine	
N-42	calcium channel blocker	amlodipine	2-10 mg/day
N-43	diuretic	hydrochlorothiazide	5-100 mg/day
N-44	diuretic	chlorothiazide	250-2000 mg bid or tid
N-45	diuretic	furosemide	5-1000 mg/day
N-46	diuretic	bumetanide	
N-47	diuretic	ethacrynic acid	20-400 mg/day
N-48	diuretic	amiloride	1-20 mg/day
N-49	diuretic	triameterene	
N-50	diuretic	spironolactone	5-1000 mg/day
N-51	diuretic	eplerenone	10-150 mg/day
N-52	vasodilator	hydralazine	5-300 mg/day
N-53	vasodilator	minoxidil	1-100 mg/day
N-54	vasodilator	diazoxide	1-3 mg/kg
N-55	vasodilator	nitroprusside	

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Additional calcium channel blockers which are useful
 in the combinations of the present invention include,
 5 without limitation, those shown in Table 5a.

Table 5a.

Compound Number	Compound Name	Reference
N-56	bepridil	U.S. Patent No. 3,962,238 or U.S. Reissue No. 30,577
N-57	clentiazem	U.S. Patent No. 4,567,175
N-58	diltiazem	U.S. Patent No. 3,562,257
N-59	fendiline	U.S. Patent No. 3,262,977
N-60	gallopamil	U.S. Patent No. 3,261,859
N-61	mibepradil	U.S. Patent No. 4,808,605
N-62	prenylamine	U.S. Patent No. 3,152,173
N-63	semotiadil	U.S. Patent No. 4,786,635
N-64	terodiline	U.S. Patent No. 3,371,014
N-65	verapamil	U.S. Patent No. 3,261,859
N-66	aranipine	U.S. Patent No. 4,572,909
N-67	bamidipine	U.S. Patent No. 4,220,649
N-68	benidipine	European Patent Application Publication No. 106,275
N-69	cilnidipine	U.S. Patent No. 4,672,068
N-70	efonidipine	U.S. Patent No. 4,885,284
N-71	elgodipine	U.S. Patent No. 4,962,592
N-72	felodipine	U.S. Patent No. 4,264,611
N-73	isradipine	U.S. Patent No. 4,466,972
N-74	lacidipine	U.S. Patent No. 4,801,599
N-75	lercanidipine	U.S. Patent No. 4,705,797
N-76	manidipine	U.S. Patent No. 4,892,875
N-77	nicardipine	U.S. Patent No. 3,985,758
N-78	nifendipine	U.S. Patent No. 3,485,847
N-79	nilvadipine	U.S. Patent No. 4,338,322
N-80	nimodipine	U.S. Patent No. 3,799,934
N-81	nisoldipine	U.S. Patent No. 4,154,839
N-82	nitrendipine	U.S. Patent No. 3,799,934
N-83	cinnarizine	U.S. Patent No. 2,882,271

N-84	flunarizine	U.S. Patent No. 3,773,939
N-85	lidoflazine	U.S. Patent No. 3,267,104
N-86	lomerizine	U.S. Patent No. 4,663,325
N-87	bencyclane	Hungarian Patent No. 151,865
N-88	etafenone	German Patent No. 1,265,758
N-89	perhexiline	British Patent No. 1,025,578

Additional ACE inhibitors which are useful in the
5 combinations of the present invention include, without
limitation, those shown in Table 5b.

Table 5b.

Compound Number	Compound Name	Reference
N-90	alacepril	U.S. Patent No. 4,248,883
N-91	benazepril	U.S. Patent No. 4,410,520
N-92	captopril	U.S. Patent Nos. 4,046,889 and 4,105,776
N-93	ceronapril	U.S. Patent No. 4,452,790
N-94	delapril	U.S. Patent No. 4,385,051
N-95	enalapril	U.S. Patent No. 4,374,829
N-96	fosinopril	U.S. Patent No. 4,337,201
N-97	imadapril	U.S. Patent No. 4,508,727
N-98	lisinopril	U.S. Patent No. 4,555,502
N-99	moveltopril	Belgian Patent No. 893,553
N-100	perindopril	U.S. Patent No. 4,508,729
N-101	quinapril	U.S. Patent No. 4,344,949
N-102	ramipril	U.S. Patent No. 4,587,258
N-103	spirapril	U.S. Patent No. 4,470,972
N-104	temocapril	U.S. Patent No. 4,699,905
N-105	trandolapril	U.S. Patent No. 4,933,361

Additional beta adrenergic blockers which are useful
in the combinations of the present invention include,
without limitation, those shown in Table 5c.

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Table 5c.

Compound Number	Compound Name	Reference
N-106	acebutolol	U.S. Patent No. 3,857,952
N-107	alprenolol	Netherlands Patent Application No. 6,605,692
N-108	amosulalol	U.S. Patent No. 4,217,305
N-109	arotinolol	U.S. Patent No. 3,932,400
N-110	atenolol	U.S. Patent No. 3,663,607 or 3,836,671
N-111	befunolol	U.S. Patent No. 3,853,923
N-112	betaxolol	U.S. Patent No. 4,252,984
N-113	bevantolol	U.S. Patent No. 3,857,981
N-114	bisoprolol	U.S. Patent No. 4,171,370
N-115	bopindolol	U.S. Patent No. 4,340,641
N-116	bucumolol	U.S. Patent No. 3,663,570
N-117	bufetolol	U.S. Patent No. 3,723,476
N-118	bufuralol	U.S. Patent No. 3,929,836
N-119	bunitrolol	U.S. Patent Nos. 3,940,489 and 3,961,071
N-120	buprandolol	U.S. Patent No. 3,309,406
N-121	butiridine hydrochloride	French Patent No. 1,390,056
N-122	butofilolol	U.S. Patent No. 4,252,825
N-123	carazolol	German Patent No. 2,240,599
N-124	carteolol	U.S. Patent No. 3,910,924
N-125	carvedilol	U.S. Patent No. 4,503,067
N-126	celiprolol	U.S. Patent No. 4,034,009
N-127	cetamolol	U.S. Patent No. 4,059,622
N-128	cloranolol	German Patent No. 2,213,044
N-129	dilevalol	Clifton et al., Journal of Medicinal Chemistry, 1982 25, 670
N-130	epanolol	European Patent Publication Application No. 41,491
N-131	indenolol	U.S. Patent No. 4,045,482
N-132	labetalol	U.S. Patent No. 4,012,444
N-133	levobunolol	U.S. Patent No. 4,463,176

N-134	mepindolol	Seeman et al., Helv. Chim. Acta, 1971, 54, 241
N-135	metipranolol	Czechoslovakian Patent Application No. 128,471
N-136	metoprolol	U.S. Patent No. 3,873,600
N-137	moprolol	U.S. Patent No. 3,501,769
N-138	nadolol	U.S. Patent No. 3,935,267
N-139	nadoxolol	U.S. Patent No. 3,819,702
N-140	nebivalol	U.S. Patent No. 4,654,362
N-141	nipradilol	U.S. Patent No. 4,394,382
N-142	oxprenolol	British Patent No. 1,077,603
N-143	perbutolol	U.S. Patent No. 3,551,493
N-144	pindolol	Swiss Patent Nos. 469,002 and 472,404
N-145	practolol	U.S. Patent No. 3,408,387
N-146	pronethalol	British Patent No. 909,357
N-147	propranolol	U.S. Patent Nos. 3,337,628 and 3,520,919
N-148	sotalol	Uloth et al., Journal of Medicinal Chemistry, 1966, 9, 88
N-149	sufinalol	German Patent No. 2,728,641
N-150	talindol	U.S. Patent Nos. 3,935,259 and 4,038,313
N-151	tertatolol	U.S. Patent No. 3,960,891
N-152	tilisolol	U.S. Patent No. 4,129,565
N-153	timolol	U.S. Patent No. 3,655,663
N-154	toliprolol	U.S. Patent No. 3,432,545
N-155	xibenolol	U.S. Patent No. 4,018,824

Additional alpha adrenergic blockers which are useful in the combinations of the present invention include, without limitation, those shown in Table 5d.

Table 5d.

Compound Number	Compound Name	Reference
N-156	amosulalol	U.S. Patent No. 4,217,307

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N-157	arotinolol	U.S. Patent No. 3,932,400
N-158	dapiprazole	U.S. Patent No. 4,252,721
N-159	doxazosin	U.S. Patent No. 4,188,390
N-160	fenspiride	U.S. Patent No. 3,399,192
N-161	indoramin	U.S. Patent No. 3,527,761
N-162	labetalol	U.S. Patent No. 4,012,444
N-163	naftopidil	U.S. Patent No. 3,997,666
N-164	nicergoline	U.S. Patent No. 3,228,943
N-165	prazosin	U.S. Patent No. 3,511,836
N-166	tamsulosin	U.S. Patent No. 4,703,063
N-167	tolazoline	U.S. Patent No. 2,161,938
N-168	trimazosin	U.S. Patent No. 3,669,968
N-169	yohimbine	Raymond-Hamet, J. Pharm. Chim., 19, 209 (1934)

Additional angiotensin II receptor antagonists which are useful in the combinations of the present invention include, without limitation, those shown in Table 5e.

Table 5e.

Compound Number	Compound Name	Reference
N-170	candesartan	U.S. Patent No. 5,196,444
N-171	eprosartan	U.S. Patent No. 5,185,351
N-172	irbesartan	U.S. Patent No. 5,270,317
N-173	losartan	U.S. Patent No. 5,138,069
N-174	valsartan	U.S. Patent No. 5,399,578

Additional vasodilators which are useful in the combinations of the present invention include, without limitation, those shown in Table 5f.

Table 5f.

Compound Number	Compound Name	Reference
N-175	aluminum	U.S. Patent No. 2,970,082

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N-176	nicotinate	
N-177	amotriphenene	U.S. Patent No. 3,010,965
	bamethan	Corrigan et al., Journal of the American Chemical Society, 1945, 67, 1894
N-178	bencyclane	Hungarian Patent No. 151,865
N-180	bendazol	J. Chem. Soc., 1968, 2426
N-181	benfurodil hemisuccinate	U.S. Patent No. 3,355,463
N-182	benziodarone	U.S. Patent No. 3,012,042
N-183	betahistine	Walter et al.; Journal of the American Chemical Society, 1941, 63, 2771
N-184	bradykinin	Hamburg et al., Arch. Biochem. Biophys., 1958, 76, 252
N-185	brovincamine	U.S. Patent No. 4,146,643
N-186	bufeniode	U.S. Patent No. 3,542,870
N-187	buflomedil	U.S. Patent No. 3,895,030
N-188	butalamine	U.S. Patent No. 3,338,899
N-189	cetiedil	French Patent No. 1,460,571
N-190	chloracizine	British Patent No. 740,932
N-191	chromonar	U.S. Patent No. 3,282,938
N-192	cyclonicate	German Patent No. 1,910,481
N-194	cinepazide	Belgian Patent No. 730,345
N-195	cinnarizine	U.S. Patent No. 2,882,271
N-197	citicoline	Kennedy et al., Journal of the American Chemical Society, 1955, 77, 250 or synthesized as disclosed in Kennedy, Journal of Biological Chemistry, 1956, 222, 185
N-198	clobenfural	British Patent No. 1,160,925
N-199	clonitrate	see Annalen, 1870, 155, 165
N-200	cloricromen	U.S. Patent No. 4,452,811
N-201	cyclandelate	U.S. Patent No. 2,707,193
N-203	diisopropylamine dichloroacetate	Neutralization of dichloroacetic acid with diisopropyl amine
N-204	diisopropylamine dichloroacetate	British Patent No. 862,248
N-205	dilazep	U.S. Patent No. 3,532,685
N-206	dipyridamole	British Patent No. 807,826
N-207	droprenilamine	German Patent No. 2,521,113
N-208	ebumammonine	Hermann et al., Journal of the American Chemical Society, 1979, 101, 1540
N-209	efloxate	British Patent Nos. 803,372

		and 824,547
N-210	eledoisin	British Patent No. 984,810
N-211	erythrityl tetranitrate	May be prepared by nitration of erythritol according to methods well-known to those skilled in the art. See e.g., Merck Index.
N-212	etafenone	German Patent No. 1,265,758
N-213	fasudil	U.S. Patent No. 4,678,783
N-214	fendiline	U.S. Patent No. 3,262,977
N-215	fenoxedil	U.S. Patent No. 3,818,021 or German Patent No. 1,964,712
N-217	floredil	German Patent No. 2,020,464
N-218	flunarizine	German Patent No. 1,929,330 or French Patent No. 2,014,487
N-219	flunarizine	U.S. Patent No. 3,773,939
N-220	ganglefene	U.S.S.R. Patent No. 115,905
N-221	heprionate	U.S. Patent No. 3,384,642
N-222	hexestrol	U.S. Patent No. 2,357,985
N-223	hexobendine	U.S. Patent No. 3,267,103
N-224	ibudilast	U.S. Patent No. 3,850,941
N-225	ifenprodil	U.S. Patent No. 3,509,164
N-227	iloprost	U.S. Patent No. 4,692,464
N-228	inositol niacinate	Badgett et al., Journal of the American Chemical Society, 1947, 69, 2907
N-229	isoxsuprine	U.S. Patent No. 3,056,836
N-230	itramin tosylate	Swedish Patent No. 168,308
N-231	kallidin	Biochem. Biophys. Res. Commun., 1961, 6, 210
N-232	kallikrein	German Patent No. 1,102,973
N-233	khellin	Baxter et al., Journal of the Chemical Society, 1949, S 30
N-234	lidofiazine	U.S. Patent No. 3,267,104
N-235	lomerizine	U.S. Patent No. 4,663,325
N-236	mannitol hexanitrate	may be prepared by the nitration of mannitol according to methods well-known to those skilled in the art
N-237	medibazine	U.S. Patent No. 3,119,826
N-238	moxislyte	German Patent No. 905,738
N-239	nafronyl	U.S. Patent No. 3,334,096
N-241	nicametate	Blicke & Jenner, J. Am. Chem. Soc., 64, 1722 (1942)
N-243	nicergoline	U.S. Patent No. 3,228,943
N-245	nicofurano	Swiss Patent No. 366,523

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N-246	nimodipine	U.S. Patent No. 3,799,934
N-247	nitroglycerin	Sobrero, Ann., 64, 398 (1847)
N-248	nylidrin	U.S. Patent Nos. 2,661,372 and 2,661,373
N-249	papaverine	Goldberg, Chem. Prod. Chem. News, 1954, 17, 371
N-250	pentaerythritol tetrinitrate	U.S. Patent No. 2,370,437
N-251	pentifylline	German Patent No. 860,217
N-253	pentoxifylline	U.S. Patent No. 3,422,107
N-254	pentrinitrol	German Patent No. 638,422-3
N-255	perhexilline	British Patent No. 1,025,578
N-256	pimefylline	U.S. Patent No. 3,350,400
N-257	piribedil	U.S. Patent No. 3,299,067
N-258	prenylamine	U.S. Patent No. 3,152,173
N-259	propatyl nitrate	French Patent No. 1,103,113
N-260	prostaglandin E1	may be prepared by any of the methods referenced in the Merck Index, Twelfth Edition, Budaved, Ed., New Jersey, 1996, p. 1353
N-261	suloctidil	German Patent No. 2,334,404
N-262	tinofedrine	U.S. Patent No. 3,563,997
N-263	tolazoline	U.S. Patent No. 2,161,938
N-264	trapidil	East German Patent No. 55,956
N-265	tricromyl	U.S. Patent No. 2,769,015
N-266	trimetazidine	U.S. Patent No. 3,262,852
N-267	trolnitrate phosphate	French Patent No. 984,523 or German Patent No. 830,955
N-268	vincamine	U.S. Patent No. 3,770,724
N-269	vinpocetine	U.S. Patent No. 4,035,750
N-270	viiquidil	U.S. Patent No. 2,500,444
N-271	vismadine	U.S. Patent Nos. 2,816,118 and 2,980,699
N-272	xanthinol niacinate	German Patent No. 1,102,750 or Korbonits et al., Acta. Pharm. Hung., 1968, 38, 98

Additional diuretics which are useful in the
combinations of the present invention include, without
5 limitation, those shown in Table 5g.

Table 5g.

Compound Number	Compound Name	Reference
N-273	acetazolamide	U.S. Patent No. 2,980,679
N-274	althiazide	British Patent No. 902,658
N-275	amanozine	Austrian Patent No. 168,063
N-276	ambuside	U.S. Patent No. 3,188,329
N-277	amiloride	Belgian Patent No. 639,386
N-278	arbutin	Tschb&habln, Annalen, 1930, 479, 303
N-279	azosemide	U.S. Patent No. 3,665,002
N-280	bendroflumethiazide	U.S. Patent No. 3,265,573
N-281	benzthiazide	McManus et al., 136th Am. Soc. Meeting (Atlantic City, September 1959). Abstract of Papers, pp 13-0
N-282	benzylhydro-chlorothiazide	U.S. Patent No. 3,108,097
N-283	bumetanide	U.S. Patent No. 3,634,583
N-284	butazolamide	British Patent No. 769,757
N-285	buthiazide	British Patent Nos. 861,367 and 885,078
N-286	chloraminophenamide	U.S. Patent Nos. 2,809,194, 2,965,655 and 2,965,656
N-287	chlorazanil	Austrian Patent No. 168,063
N-288	chlorothiazide	U.S. Patent Nos. 2,809,194 and 2,937,169
N-289	chlorthalidone	U.S. Patent No. 3,055,904
N-290	clofenamide	Olivier, Rec. Trav. Chim., 1918, 37, 307
N-291	clopamide	U.S. Patent No. 3,459,756
N-292	clorexolone	U.S. Patent No. 3,183,243
N-293	cyclopenthiazide	Belgian Patent No. 587,225
N-294	cyclothiazide	Whitehead et al., Journal of Organic Chemistry, 1961, 26, 2814
N-295	disulfamide	British Patent No. 851,287
N-296	epithiazide	U.S. Patent No. 3,009,911
N-297	ethacrynic acid	U.S. Patent No. 3,255,241
N-298	ethiazide	British Patent No. 861,367
N-299	ethoxolamide	British Patent No. 795,174
N-300	etozolin	U.S. Patent No. 3,072,653
N-301	fenquizone	U.S. Patent No. 3,870,720
N-302	furosemide	U.S. Patent No. 3,058,882
N-303	hydracarbazine	British Patent No. 856,409
N-304	hydrochlorothiazide	U.S. Patent No. 3,164,588
N-305	hydroflumethiazide	U.S. Patent No. 3,254,076
N-306	indapamide	U.S. Patent No. 3,565,911
N-307	isosorbide	U.S. Patent No. 3,160,641

N-308	mannitol	U.S. Patent No. 2,642,462; or 2,749,371; or 2,759,024
N-309	mefruside	U.S. Patent No. 3,356,692
N-310	methazolamide	U.S. Patent No. 2,783,241
N-311	methyclothiazide	Close et al., Journal of the American Chemical Society, 1960, 82, 1132
N-312	meticrane	French Patent Nos. M2790 and 1,365,504
N-313	metochalcone	Freudenberg et al., Ber., 1957, 90, 957
N-314	metolazone	U.S. Patent No. 3,360,518
N-315	muzolimine	U.S. Patent No. 4,018,890
N-316	paraflutizide	Belgian Patent No. 620,829
N-317	perhexiline	British Patent No. 1,025,578
N-318	piretanide	U.S. Patent No. 4,010,273
N-319	polythiazide	U.S. Patent No. 3,009,911
N-320	quinethazone	U.S. Patent No. 2,976,289
N-321	teclothiazide	Close et al., Journal of the American Chemical Society, 1960, 82, 1132
N-322	ticrynafen	U.S. Patent No. 3,758,506
N-323	torasemide	U.S. Patent No. 4,018,929
N-324	triamterene	U.S. Patent No. 3,081,230
N-325	trichlormethiazide	deStevens et al., Experientia, 1960, 16, 113
N-326	tripamide	Japanese Patent No. 73 05,585
N-327	urea	Can be purchased from commercial sources
N-328	xipamide	U.S. Patent No. 3,567,777

Many of the compounds useful in the present invention can have at least two asymmetric carbon atoms, and therefore include racemates and stereoisomers, such as diastereomers and enantiomers, in both pure form and in admixture. Such stereoisomers can be prepared using conventional techniques, either by reacting enantiomeric starting materials, or by separating isomers of compounds of the present invention.

Isomers may include geometric isomers, for example cis-isomers or trans-isomers across a double bond. All such isomers are contemplated among the compounds useful in the present invention.

5 The compounds useful in the present invention also include tautomers.

The compounds useful in the present invention as discussed below include their salts, solvates and prodrugs.

10

Dosages, Formulations, and Routes of Administration

The compositions of the present invention can be administered for the prophylaxis and treatment of hyperlipidemic diseases or conditions by any means, 15 preferably oral, that produce contact of these compounds with their site of action in the body, for example in the ileum of a mammal, e.g., a human.

For the prophylaxis or treatment of the conditions referred to above, the compounds useful in the 20 compositions and methods of the present invention can be used as the compound *per se*. Pharmaceutically acceptable salts are particularly suitable for medical applications because of their greater aqueous solubility relative to the parent compound. Such salts must clearly have a 25 pharmaceutically acceptable anion or cation. Suitable pharmaceutically acceptable acid addition salts of the compounds of the present invention when possible include those derived from inorganic acids, such as hydrochloric, hydrobromic, phosphoric, metaphosphoric, nitric, sulfonic, 30 and sulfuric acids, and organic acids such as acetic, benzenesulfonic, benzoic, citric, ethanesulfonic, fumaric, gluconic, glycolic, isothionic, lactic, lactobionic, maleic, malic, methanesulfonic, succinic, toluenesulfonic, tartaric, and trifluoroacetic acids. The chloride salt is

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particularly preferred for medical purposes. Suitable pharmaceutically acceptable base salts include ammonium salts, alkali metal salts such as sodium and potassium salts, and alkaline earth salts such as magnesium and calcium salts.

The anions useful in the present invention are, of course, also required to be pharmaceutically acceptable and are also selected from the above list.

The compounds useful in the present invention can be 10 presented with an acceptable carrier in the form of a pharmaceutical composition. The carrier must, of course, be acceptable in the sense of being compatible with the other ingredients of the composition and must not be deleterious to the recipient. The carrier can be a solid 15 or a liquid, or both, and is preferably formulated with the compound as a unit-dose composition, for example, a tablet, which can contain from 0.05% to 95% by weight of the active compound. Other pharmacologically active substances can also be present, including other compounds 20 of the present invention. The pharmaceutical compositions of the invention can be prepared by any of the well known techniques of pharmacy, consisting essentially of admixing the components.

These compounds can be administered by any 25 conventional means available for use in conjunction with pharmaceuticals, either as individual therapeutic compounds or as a combination of therapeutic compounds.

The amount of compound which is required to achieve the desired biological effect will, of course, depend on a 30 number of factors such as the specific compound chosen, the use for which it is intended, the mode of administration, and the clinical condition of the recipient.

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In general, a total daily dose of an IBAT inhibitor can be in the range of from about 0.01 to about 1000 mg/day, preferably from about 0.1 mg to about 50 mg/day, more preferably from about 1 to about 10 mg/day.

5 A total daily dose of a fibric acid derivative can generally be in the range of from about 1000 to about 3000 mg/day in single or divided doses. Gemfibrozil or clinofibrate, for example, are frequently each administered separately in a 1200 mg/day dose. Clofibrate 10 is frequently administered in a 2000 mg/day dose. Binifibrate is frequently administered in a 1800 mg/day dose.

Generally a total daily dose of probucol can be in the range of from about 250 to about 2000 mg/day, 15 preferably about 500 to about 1500 mg/day, and more preferably still about 750 to about 1000 mg/day in single or divided doses.

Generally a total daily dose of a nicotinic acid derivative can be in the range of from about 500 to about 20 10,000 mg/day, preferably about 1000 to about 8000 mg/day, and more preferably still about 3000 to about 6000 mg/day in single or divided doses.

For a CETP inhibitor, a daily dose of about 0.01 to about 100 mg/kg body weight/day, and preferably between 25 about 0.5 to about 20 mg/kg body weight/day, may generally be appropriate.

For stanols, a daily dose of about 1000 to about 4000 mg/kg body weight/day, preferably between about 500 to about 1500 mg/kg body weight/day, and more preferably 30 between about 150 to about 600 mg/kg body weight/day will generally be appropriate.

For antihypertensive agents, the daily dose will vary depending on the specific mechanism of activity, the chemistry of the antihypertensive agent, and the patient.

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General dose ranges for specific antihypertensive agents are described in Table 5 or in the Biological Assays section.

For cholesterol absorption antagonists, a daily dose 5 of about 0.001 to about 500 mg/kg body weight/day, preferably between about 0.05 to about 300 mg/kg body weight/day, and more preferably between about 1 to about 200 mg/kg body weight/day will generally be appropriate.

For MTP inhibitors, a daily dose of about 0.001 to 10 about 800 mg/kg body weight/day, preferably between about 0.01 to about 500 mg/kg body weight/day, more preferably between about 0.1 to about 300 mg/kg body weight/day, and more preferably still between about 1 to about 200 mg/kg body weight/day will generally be appropriate.

15 The daily doses described in the preceding paragraphs for the various therapeutic compounds can be administered to the patient in a single dose, or in proportionate multiple subdoses. Subdoses can be administered 2 to 6 times per day. Doses can be in sustained release form 20 effective to obtain desired results.

In the case of pharmaceutically acceptable salts, the weights indicated above refer to the weight of the acid equivalent or the base equivalent of the therapeutic compound derived from the salt.

25 Oral delivery of the combinations of the present invention can include formulations, as are well known in the art, to provide prolonged or sustained delivery of the drug to the gastrointestinal tract by any number of mechanisms. These include, but are not limited to, pH 30 sensitive release from the dosage form based on the changing pH of the small intestine, slow erosion of a tablet or capsule, retention in the stomach based on the physical properties of the formulation, bioadhesion of the dosage form to the mucosal lining of the intestinal tract,

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or enzymatic release of the active drug from the dosage form. For some of the therapeutic compounds useful in the present invention (e.g., IBAT inhibitors or CETP inhibitors), the intended effect is to extend the time period over which the active drug molecule is delivered to the site of action (e.g., the ileum) by manipulation of the dosage form. Thus, enteric-coated and enteric-coated controlled release formulations are within the scope of the present invention. Suitable enteric coatings include cellulose acetate phthalate, polyvinylacetate phthalate, hydroxypropylmethylcellulose phthalate and anionic polymers of methacrylic acid and methacrylic acid methyl ester.

The combinations of the present invention can be delivered orally either in a solid, in a semi-solid, or in a liquid form. When in a liquid or in a semi-solid form, the combinations of the present invention can, for example, be in the form of a liquid, syrup, or contained in a gel capsule (e.g., a gel cap). In one embodiment, when a CETP inhibitor is used in a combination of the present invention, the CETP inhibitor can be provided in the form of a liquid, syrup, or contained in a gel capsule.

When administered intravenously, the dose for an IBAT inhibitor can, for example, be in the range of from about 0.1 mg/kg body weight to about 1.0 mg/kg body weight, preferably from about 0.25 mg/kg body weight to about 0.75 mg/kg body weight, more preferably from about 0.4 mg/kg body weight to about 0.6 mg/kg body weight.

For a CETP inhibitor the intravenously administered dose can, for example, be in the range of from about 0.003 mg/kg body weight to about 1.0 mg/kg body weight, preferably from about 0.01 mg/kg body weight to about 0.75

mg/kg body weight, more preferably from about 0.1 mg/kg body weight to about 0.6 mg/kg body weight.

When administered intravenously, the dose for a fibric acid derivative can, for example, be in the range 5 of from about 100 mg/kg body weight to about 2000 mg/kg body weight, preferably from about 300 mg/kg body weight to about 1000 mg/kg body weight, more preferably from about 400 mg/kg body weight to about 750 mg/kg body weight.

10 When administered intravenously, the dose for a nicotinic acid derivative can, for example, be in the range of from about 150 mg/kg body weight to about 3000 mg/kg body weight, preferably from about 300 mg/kg body weight to about 2000 mg/kg body weight, more preferably 15 from about 500 mg/kg body weight to about 1000 mg/kg body weight.

The intravenously administered dose for probucol can, for example, be in the range of from about 50 mg/kg body weight to about 1500 mg/kg body weight, preferably from 20 about 100 mg/kg body weight to about 1000 mg/kg body weight, more preferably from about 200 mg/kg body weight to about 750 mg/kg body weight.

The dose of any of these therapeutic compounds can be conveniently administered as an infusion of from about 10 25 ng/kg body weight to about 100 ng/kg body weight per minute. Infusion fluids suitable for this purpose can contain, for example, from about 0.1 ng to about 10 mg, preferably from about 1 ng to about 10 mg per milliliter. Unit doses can contain, for example, from about 1 mg to 30 about 10 g of the compound of the present invention. Thus, ampoules for injection can contain, for example, from about 1 mg to about 100 mg.

Pharmaceutical compositions according to the present invention include those suitable for oral, rectal,

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topical, buccal (e.g., sublingual), and parenteral (e.g., subcutaneous, intramuscular, intradermal, or intravenous) administration, although the most suitable route in any given case will depend on the nature and severity of the 5 condition being treated and on the nature of the particular compound which is being used. In most cases, the preferred route of administration is oral.

Pharmaceutical compositions suitable for oral administration can be presented in discrete units, such as 10 capsules, cachets, lozenges, or tablets, each containing a predetermined amount of at least one therapeutic compound useful in the present invention; as a powder or granules; as a solution or a suspension in an aqueous or non-aqueous liquid; or as an oil-in-water or water-in-oil emulsion.

15 As indicated, such compositions can be prepared by any suitable method of pharmacy which includes the step of bringing into association the active compound(s) and the carrier (which can constitute one or more accessory ingredients). In general, the compositions are prepared 20 by uniformly and intimately admixing the active compound with a liquid or finely divided solid carrier, or both, and then, if necessary, shaping the product. For example, a tablet can be prepared by compressing or molding a powder or granules of the compound, optionally with one or 25 more accessory ingredients. Compressed tablets can be prepared by compressing, in a suitable machine, the compound in a free-flowing form, such as a powder or granules optionally mixed with a binder, lubricant, inert diluent and/or surface active/dispersing agent(s). Molded 30 tablets can be made by molding, in a suitable machine, the powdered compound moistened with an inert liquid diluent.

Pharmaceutical compositions suitable for buccal (sub-lingual) administration include lozenges comprising a compound of the present invention in a flavored base,

usually sucrose, and acacia or tragacanth, and pastilles comprising the compound in an inert base such as gelatin and glycerin or sucrose and acacia.

Pharmaceutical compositions suitable for parenteral administration conveniently comprise sterile aqueous preparations of a compound of the present invention. These preparations are preferably administered intravenously, although administration can also be effected by means of subcutaneous, intramuscular, or intradermal injection.

Such preparations can conveniently be prepared by admixing the compound with water and rendering the resulting solution sterile and isotonic with the blood. Injectable compositions according to the invention will generally contain from 0.1 to 5% w/w of a compound disclosed herein.

Pharmaceutical compositions suitable for rectal administration are preferably presented as unit-dose suppositories. These can be prepared by admixing a compound of the present invention with one or more conventional solid carriers, for example, cocoa butter, and then shaping the resulting mixture.

Pharmaceutical compositions suitable for topical application to the skin preferably take the form of an ointment, cream, lotion, paste, gel, spray, aerosol, or oil. Carriers which can be used include petroleum jelly (e.g., Vaseline), lanolin, polyethylene glycols, alcohols, and combinations of two or more thereof. The active compound is generally present at a concentration of from 0.1 to 50% w/w of the composition, for example, from 0.5 to 2%.

Transdermal administration is also possible. Pharmaceutical compositions suitable for transdermal administration can be presented as discrete patches adapted to remain in intimate contact with the epidermis of the recipient for a prolonged period of time. Such

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patches suitably contain a compound of the present invention in an optionally buffered, aqueous solution, dissolved and/or dispersed in an adhesive, or dispersed in a polymer. A suitable concentration of the active compound is about 1% to 35%, preferably about 3% to 15%. As one particular possibility, the compound can be delivered from the patch by electrotransport or iontophoresis, for example, as described in Pharmaceutical Research, 3(6), 318 (1986).

10 In any case, the amount of active ingredient that can be combined with carrier materials to produce a single dosage form to be administered will vary depending upon the host treated and the particular mode of administration.

15 The solid dosage forms for oral administration including capsules, tablets, pills, powders, gel caps, and granules noted above comprise one or more compounds useful in the present invention admixed with at least one inert diluent such as sucrose, lactose, or starch. Such dosage forms may also comprise, as in normal practice, additional substances other than inert diluents, e.g., lubricating agents such as magnesium stearate or solubilizing agents such as cyclodextrins. In the case of capsules, tablets, powders, granules, gel caps, and pills, the dosage forms 20 may also comprise buffering agents. Tablets and pills can additionally be prepared with enteric coatings.

Liquid dosage forms for oral administration can include pharmaceutically acceptable emulsions, solutions, suspensions, syrups, and elixirs containing inert diluents 25 commonly used in the art, such as water. Such compositions may also comprise adjuvants, such as wetting agents, emulsifying and suspending agents, and sweetening, flavoring, and perfuming agents.

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Injectable preparations, for example, sterile injectable aqueous or oleaginous suspensions may be formulated according to the known art using suitable dispersing or setting agents and suspending agents. The 5 sterile injectable preparation may also be a sterile injectable solution or suspension in a nontoxic parenterally acceptable diluent or solvent, for example, as a solution in 1,3-butanediol. Among the acceptable vehicles and solvents that may be employed are water, 10 Ringer's solution, and isotonic sodium chloride solution. In addition, sterile, fixed oils are conventionally employed as a solvent or suspending medium. For this purpose any bland fixed oil may be employed including synthetic mono- or diglycerides. In addition, fatty acids 15 such as oleic acid find use in the preparation of injectables.

Pharmaceutically acceptable carriers encompass all the foregoing and the like.

In combination therapy, administration of two or more 20 of the therapeutic agents useful in the present invention may take place sequentially in separate formulations, or may be accomplished by simultaneous administration in a single formulation or separate formulations. Administration may be accomplished by oral route, or by 25 intravenous, intramuscular, or subcutaneous injections. The formulation may be in the form of a bolus, or in the form of aqueous or non-aqueous isotonic sterile injection solutions or suspensions. These solutions and suspensions may be prepared from sterile powders or granules having 30 one or more pharmaceutically-acceptable carriers or diluents, or a binder such as gelatin or hydroxypropylmethyl cellulose, together with one or more of a lubricant, preservative, surface active or dispersing agent.

For oral administration, the pharmaceutical composition may be in the form of, for example, a tablet, capsule, suspension, or liquid. Capsules, tablets, etc., can be prepared by conventional methods well known in the art. The pharmaceutical composition is preferably made in the form of a dosage unit containing a particular amount of the active ingredient or ingredients. Examples of dosage units are tablets or capsules. These may with advantage contain one or more therapeutic compound in an amount described above. For example, in the case of an IBAT inhibitor, the dose range may be from about 0.01 mg/day to about 500 mg/day or any other dose, dependent upon the specific inhibitor, as is known in the art.

The active ingredients may also be administered by injection as a composition wherein, for example, saline, dextrose, or water may be used as a suitable carrier. A suitable daily dose of each active therapeutic compound is one that achieves the same blood serum level as produced by oral administration as described above.

The therapeutic compounds may further be administered by any combination of oral/oral, oral/parenteral, or parenteral/parenteral route.

Pharmaceutical compositions for use in the treatment methods of the present invention may be administered in oral form or by intravenous administration. Oral administration of the combination therapy is preferred. Dosing for oral administration may be with a regimen calling for single daily dose, or for a single dose every other day, or for multiple, spaced doses throughout the day. The therapeutic compounds which make up the combination therapy may be administered simultaneously, either in a combined dosage form or in separate dosage forms intended for substantially simultaneous oral administration. The therapeutic compounds which make up

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the combination therapy may also be administered sequentially, with either therapeutic compound being administered by a regimen calling for two-step ingestion. Thus, a regimen may call for sequential administration of 5 the therapeutic compounds with spaced-apart ingestion of the separate, active agents. The time period between the multiple ingestion steps may range from a few minutes to several hours, depending upon the properties of each therapeutic compound such as potency, solubility, 10 bioavailability, plasma half-life and kinetic profile of the therapeutic compound, as well as depending upon the effect of food ingestion and the age and condition of the patient. Circadian variation of the target molecule concentration may also determine the optimal dose 15 interval. The therapeutic compounds of the combined therapy whether administered simultaneously, substantially simultaneously, or sequentially, may involve a regimen calling for administration of one therapeutic compound by oral route and another therapeutic compound by intravenous 20 route. Whether the therapeutic compounds of the combined therapy are administered by oral or intravenous route, separately or together, each such therapeutic compound will be contained in a suitable pharmaceutical formulation of pharmaceutically-acceptable excipients, diluents or 25 other formulations components. Examples of suitable pharmaceutically-acceptable formulations containing the therapeutic compounds for oral administration are given above.

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Treatment Regimen

The dosage regimen to prevent, give relief from, or ameliorate a disease condition having hyperlipemia as an element of the disease, e.g., atherosclerosis, or to protect against or treat further high cholesterol plasma

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or blood levels with the compounds and/or compositions of the present invention is selected in accordance with a variety of factors. These include the type, age, weight, sex, diet, and medical condition of the patient, the 5 severity of the disease, the route of administration, pharmacological considerations such as the activity, efficacy, pharmacokinetics and toxicology profiles of the particular compound employed, whether a drug delivery system is utilized, and whether the compound is 10 administered as part of a drug combination. Thus, the dosage regimen actually employed may vary widely and therefore deviate from the preferred dosage regimen set forth above.

Initial treatment of a patient suffering from a 15 hyperlipidemic condition can begin with the dosages indicated above. Treatment should generally be continued as necessary over a period of several weeks to several months or years until the hyperlipidemic disease condition has been controlled or eliminated. Patients undergoing 20 treatment with the compounds or compositions disclosed herein can be routinely monitored by, for example, measuring serum LDL and total cholesterol levels by any of the methods well known in the art, to determine the effectiveness of the combination therapy. Continuous 25 analysis of such data permits modification of the treatment regimen during therapy so that optimal effective amounts of each type of therapeutic compound are administered at any point in time, and so that the duration of treatment can be determined as well. In this 30 way, the treatment regimen/dosing schedule can be rationally modified over the course of therapy so that the lowest amount of the therapeutic compounds which together exhibit satisfactory effectiveness is administered, and so that administration is continued only so long as is

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necessary to successfully treat the hyperlipidemic condition.

A potential advantage of the combination disclosed herein may be reduction of the amount of any individual 5 therapeutic compound, or all therapeutic compounds, effective in treating hyperlipidemic conditions such as atherosclerosis and hypercholesterolemia.

One of the several embodiments of the present invention provides a combination comprising the use of a 10 first amount of an IBAT inhibitor and a second amount of another cardiovascular therapeutic useful in the prophylaxis or treatment of hyperlipidemia or atherosclerosis, wherein the first and second amounts together comprise an anti-hyperlipidemic condition 15 effective amount or an anti-atherosclerotic condition effective amount of the compounds. For example one of the many embodiments of the present invention is a combination therapy comprising therapeutic dosages of an IBAT inhibitor and a CETP inhibitor. A preferred embodiment of 20 the present invention is a combination therapy comprising therapeutic dosages of a benzothiepine IBAT inhibitor and a CETP inhibitor.

In another embodiment, the invention comprises a combination therapy comprising a first amount of an IBAT 25 inhibitor and a second amount of a fibric acid derivative, wherein the first and second amounts together comprise an anti-hyperlipidemic condition effective amount or an anti- atherosclerotic condition effective amount of the compounds. Still another embodiment comprises a 30 combination therapy comprising a first amount of an IBAT inhibitor and a second amount of a nicotinic acid derivative, wherein the first and second amounts together comprise an anti-hyperlipidemic condition effective amount or an anti-atherosclerotic condition effective amount of

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the compounds. The IBAT inhibitor in the embodiments of this paragraph is preferably a benzothiepine IBAT inhibitor.

Alternatively, an embodiment of the present invention 5 provides a combination which comprises a first amount of a CETP inhibitor and a second amount of another cardiovascular therapeutic, wherein the first and second amounts together comprise an anti-hyperlipidemic condition effective amount or an anti-atherosclerotic condition 10 effective amount of the compounds. A preferred embodiment provides a combination comprising a first amount of a CETP inhibitor and a second amount of a fibrin acid derivative, wherein the first and second amounts together comprise an anti-hyperlipidemic condition effective amount or an anti- 15 atherosclerotic condition effective amount of the compounds. The invention is also embodied in a therapeutic composition comprising first amount of a CETP inhibitor and a second amount of a nicotinic acid derivative, wherein the first and second amounts together 20 comprise an anti-hyperlipidemic condition effective amount or an anti-atherosclerotic condition effective amount of the compounds. In the embodiments described in this paragraph, the CETP inhibitor is preferably the compound of formula C-1.

25 In another of its many embodiments, the present invention provides a combination comprising therapeutic dosages of an IBAT inhibitor and a phytosterol. In a preferred embodiment, the present invention provides a combination therapy comprising therapeutic dosages of a 30 benzothiepine IBAT inhibitor and a phytosterol. In another preferred embodiment, the present invention provides a combination therapy comprising therapeutic dosages of an IBAT inhibitor and a stanol.

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In another of its many embodiments, the present invention provides a combination comprising a first amount of an IBAT inhibitor and a second amount of a fibric acid derivative, wherein the first and second amounts together 5 comprise an anti-hyperlipidemic condition effective amount or an anti-atherosclerotic condition effective amount of the compounds. In a preferred embodiment, the IBAT inhibitor is a benzothiepine IBAT inhibitor. In another preferred embodiment, the IBAT inhibitor is a 10 benzothiazepine IBAT inhibitor. In yet another preferred embodiment, the IBAT inhibitor is a naphthalene IBAT inhibitor.

In another of its many embodiments, the present invention provides a combination comprising therapeutic 15 dosages of an IBAT inhibitor and a cholesterol absorption antagonist. In a preferred embodiment, the present invention provides a combination therapy comprising therapeutic dosages of a benzothiepine IBAT inhibitor and a cholesterol absorption antagonist.

The embodiments of the present invention can comprise 20 a combination therapy using two or more of the therapeutic compounds described or incorporated herein. The combination therapy can comprise two or more therapeutic compounds from different classes of chemistry, e.g., IBAT inhibitors can be therapeutically combined with CETP 25 inhibitors. Therapeutic combinations can comprise more than two therapeutic compounds. For example, two or more therapeutic compounds from the same class of chemistry can comprise the therapy, e.g. a combination therapy comprising 30 two or more IBAT inhibitors or two or more CETP inhibitors. In another embodiment the present invention provides a combination comprising two or more IBAT inhibitors or two or more stanols.

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A further embodiment of the instant invention comprises the use of any of the cardiovascular combination therapies described herein for the prophylaxis or treatment of hypercholesterolemia or atherosclerosis.

5 The following non-limiting examples serve to illustrate various aspects of the present invention.

c. Examples

10 Table 6 illustrates examples of some of the many combinations of the present invention wherein the combination comprises a first amount of IBAT inhibitor and a second amount of a CETP inhibitor, wherein the first and second amounts together comprise an anti-hyperlipidemic
15 condition effective amount or an anti-atherosclerotic condition effective amount of the compounds.

Table 6

Example Number	Component 1	Component 2
1	B-1	C-1
2	B-1	C-2
3	B-1	C-3
4	B-1	C-4
5	B-1	C-5
6	B-1	C-6
7	B-1	C-7
8	B-1	C-8
9	B-1	C-9
10	B-1	C-10
11	B-1	C-11
12	B-1	C-12
13	B-1	C-13
14	B-1	C-14
15	B-1	C-15
16	B-1	C-16
17	B-1	C-17

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18	B-1	C-18
19	B-1	C-19
20	B-1	C-20
21	B-2	C-1
22	B-2	C-2
23	B-2	C-3
24	B-2	C-4
25	B-2	C-5
26	B-2	C-6
27	B-2	C-7
28	B-2	C-8
29	B-2	C-9
30	B-2	C-10
31	B-2	C-11
32	B-2	C-12
33	B-2	C-13
34	B-2	C-14
35	B-2	C-15
36	B-2	C-16
37	B-2	C-17
38	B-2	C-18
39	B-2	C-19
40	B-2	C-20
41	B-3	C-1
42	B-3	C-2
43	B-3	C-3
44	B-3	C-4
45	B-3	C-5
46	B-3	C-6
47	B-3	C-7
48	B-3	C-8
49	B-3	C-9
50	B-3	C-10
51	B-3	C-11
52	B-3	C-12
53	B-3	C-13
54	B-3	C-14
55	B-3	C-15
56	B-3	C-16
57	B-3	C-17
58	B-3	C-18

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59	B-3	C-19
60	B-3	C-20
61	B-4	C-1
62	B-4	C-2
63	B-4	C-3
64	B-4	C-4
65	B-4	C-5
66	B-4	C-6
67	B-4	C-7
68	B-4	C-8
69	B-4	C-9
70	B-4	C-10
71	B-4	C-11
72	B-4	C-12
73	B-4	C-13
74	B-4	C-14
75	B-4	C-15
76	B-4	C-16
77	B-4	C-17
78	B-4	C-18
79	B-4	C-19
80	B-4	C-20
81	B-5	C-1
82	B-5	C-2
83	B-5	C-3
84	B-5	C-4
85	B-5	C-5
86	B-5	C-6
87	B-5	C-7
88	B-5	C-8
89	B-5	C-9
90	B-5	C-10
91	B-5	C-11
92	B-5	C-12
93	B-5	C-13
94	B-5	C-14
95	B-5	C-15
96	B-5	C-16
97	B-5	C-17
98	B-5	C-18
99	B-5	C-19

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100	B-5	C-20
101	B-6	C-1
102	B-6	C-2
103	B-6	C-3
104	B-6	C-4
105	B-6	C-5
106	B-6	C-6
107	B-6	C-7
108	B-6	C-8
109	B-6	C-9
110	B-6	C-10
111	B-6	C-11
112	B-6	C-12
113	B-6	C-13
114	B-6	C-14
115	B-6	C-15
116	B-6	C-16
117	B-6	C-17
118	B-6	C-18
119	B-6	C-19
120	B-6	C-20
121	B-7	C-1
122	B-7	C-2
123	B-7	C-3
124	B-7	C-4
125	B-7	C-5
126	B-7	C-6
127	B-7	C-7
128	B-7	C-8
129	B-7	C-9
130	B-7	C-10
131	B-7	C-11
132	B-7	C-12
133	B-7	C-13
134	B-7	C-14
135	B-7	C-15
136	B-7	C-16
137	B-7	C-17
138	B-7	C-18
139	B-7	C-19
140	B-7	C-20

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141	B-8	C-1
142	B-8	C-2
143	B-8	C-3
144	B-8	C-4
145	B-8	C-5
146	B-8	C-6
147	B-8	C-7
148	B-8	C-8
149	B-8	C-9
150	B-8	C-10
151	B-8	C-11
152	B-8	C-12
153	B-8	C-13
154	B-8	C-14
155	B-8	C-15
156	B-8	C-16
157	B-8	C-17
158	B-8	C-18
159	B-8	C-19
160	B-8	C-20
161	B-9	C-1
162	B-9	C-2
163	B-9	C-3
164	B-9	C-4
165	B-9	C-5
166	B-9	C-6
167	B-9	C-7
168	B-9	C-8
169	B-9	C-9
170	B-9	C-10
171	B-9	C-11
172	B-9	C-12
173	B-9	C-13
174	B-9	C-14
175	B-9	C-15
176	B-9	C-16
177	B-9	C-17
178	B-9	C-18
179	B-9	C-19
180	B-9	C-20
181	B-10	C-1

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182	B-10	C-2
183	B-10	C-3
184	B-10	C-4
185	B-10	C-5
186	B-10	C-6
187	B-10	C-7
188	B-10	C-8
189	B-10	C-9
190	B-10	C-10
191	B-10	C-11
192	B-10	C-12
193	B-10	C-13
194	B-10	C-14
195	B-10	C-15
196	B-10	C-16
197	B-10	C-17
198	B-10	C-18
199	B-10	C-19
200	B-10	C-20
201	B-11	C-1
202	B-11	C-2
203	B-11	C-3
204	B-11	C-4
205	B-11	C-5
206	B-11	C-6
207	B-11	C-7
208	B-11	C-8
209	B-11	C-9
210	B-11	C-10
211	B-11	C-11
212	B-11	C-12
213	B-11	C-13
214	B-11	C-14
215	B-11	C-15
216	B-11	C-16
217	B-11	C-17
218	B-11	C-18
219	B-11	C-19
220	B-11	C-20
221	B-12	C-1
222	B-12	C-2

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223	B-12	C-3
224	B-12	C-4
225	B-12	C-5
226	B-12	C-6
227	B-12	C-7
228	B-12	C-8
229	B-12	C-9
230	B-12	C-10
231	B-12	C-11
232	B-12	C-12
233	B-12	C-13
234	B-12	C-14
235	B-12	C-15
236	B-12	C-16
237	B-12	C-17
238	B-12	C-18
239	B-12	C-19
240	B-12	C-20
241	B-13	C-1
242	B-13	C-2
243	B-13	C-3
244	B-13	C-4
245	B-13	C-5
246	B-13	C-6
247	B-13	C-7
248	B-13	C-8
249	B-13	C-9
250	B-13	C-10
251	B-13	C-11
252	B-13	C-12
253	B-13	C-13
254	B-13	C-14
255	B-13	C-15
256	B-13	C-16
257	B-13	C-17
258	B-13	C-18
259	B-13	C-19
260	B-13	C-20
261	B-14	C-1
262	B-14	C-2
263	B-14	C-3

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264	B-14	C-4
265	B-14	C-5
266	B-14	C-6
267	B-14	C-7
268	B-14	C-8
269	B-14	C-9
270	B-14	C-10
271	B-14	C-11
272	B-14	C-12
273	B-14	C-13
274	B-14	C-14
275	B-14	C-15
276	B-14	C-16
277	B-14	C-17
278	B-14	C-18
279	B-14	C-19
280	B-14	C-20
281	B-15	C-1
282	B-15	C-2
283	B-15	C-3
284	B-15	C-4
285	B-15	C-5
286	B-15	C-6
287	B-15	C-7
288	B-15	C-8
289	B-15	C-9
290	B-15	C-10
291	B-15	C-11
292	B-15	C-12
293	B-15	C-13
294	B-15	C-14
295	B-15	C-15
296	B-15	C-16
297	B-15	C-17
298	B-15	C-18
299	B-15	C-19
300	B-15	C-20
301	B-16	C-1
302	B-16	C-2
303	B-16	C-3
304	B-16	C-4

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305	B-16	C-5
306	B-16	C-6
307	B-16	C-7
308	B-16	C-8
309	B-16	C-9
310	B-16	C-10
311	B-16	C-11
312	B-16	C-12
313	B-16	C-13
314	B-16	C-14
315	B-16	C-15
316	B-16	C-16
317	B-16	C-17
318	B-16	C-18
319	B-16	C-19
320	B-16	C-20
321	B-17	C-1
322	B-17	C-2
323	B-17	C-3
324	B-17	C-4
325	B-17	C-5
326	B-17	C-6
327	B-17	C-7
328	B-17	C-8
329	B-17	C-9
330	B-17	C-10
331	B-17	C-11
332	B-17	C-12
333	B-17	C-13
334	B-17	C-14
335	B-17	C-15
336	B-17	C-16
337	B-17	C-17
338	B-17	C-18
339	B-17	C-19
340	B-17	C-20
341	B-18	C-1
342	B-18	C-2
343	B-18	C-3
344	B-18	C-4
345	B-18	C-5

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346	B-18	C-6
347	B-18	C-7
348	B-18	C-8
349	B-18	C-9
350	B-18	C-10
351	B-18	C-11
352	B-18	C-12
353	B-18	C-13
354	B-18	C-14
355	B-18	C-15
356	B-18	C-16
357	B-18	C-17
358	B-18	C-18
359	B-18	C-19
360	B-18	C-20
361	B-19	C-1
362	B-19	C-2
363	B-19	C-3
364	B-19	C-4
365	B-19	C-5
366	B-19	C-6
367	B-19	C-7
368	B-19	C-8
369	B-19	C-9
370	B-19	C-10
371	B-19	C-11
372	B-19	C-12
373	B-19	C-13
374	B-19	C-14
375	B-19	C-15
376	B-19	C-16
377	B-19	C-17
378	B-19	C-18
379	B-19	C-19
380	B-19	C-20
381	B-20	C-1
382	B-20	C-2
383	B-20	C-3
384	B-20	C-4
385	B-20	C-5
386	B-20	C-6

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387	B-20	C-7
388	B-20	C-8
389	B-20	C-9
390	B-20	C-10
391	B-20	C-11
392	B-20	C-12
393	B-20	C-13
394	B-20	C-14
395	B-20	C-15
396	B-20	C-16
397	B-20	C-17
398	B-20	C-18
399	B-20	C-19
400	B-20	C-20

Table 8 illustrates examples of some combinations of the present invention wherein the combination comprises a first amount of an IBAT inhibitor and a second amount of a fibric acid derivative, wherein the first and second amounts together comprise an anti-hyperlipidemic condition effective amount or an anti-atherosclerotic condition effective amount of the compounds.

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Table 8.

Example Number	Component 1	Component 2
601	B-1	clofibrate
602	B-2	clofibrate
603	B-3	clofibrate
604	B-4	clofibrate
605	B-5	clofibrate
606	B-6	clofibrate
607	B-7	clofibrate
608	B-8	clofibrate
609	B-9	clofibrate
610	B-10	clofibrate
611	B-11	clofibrate
612	B-12	clofibrate
613	B-13	clofibrate
614	B-14	clofibrate
615	B-15	clofibrate
616	B-16	clofibrate
617	B-17	clofibrate
618	B-18	clofibrate
619	B-19	clofibrate
620	B-20	clofibrate
621	B-1	fenofibrate
622	B-2	fenofibrate
623	B-3	fenofibrate
624	B-4	fenofibrate
625	B-5	fenofibrate
626	B-6	fenofibrate
627	B-7	fenofibrate
628	B-8	fenofibrate
629	B-9	fenofibrate
630	B-10	fenofibrate
631	B-11	fenofibrate
632	B-12	fenofibrate
633	B-13	fenofibrate
634	B-14	fenofibrate
635	B-15	fenofibrate
636	B-16	fenofibrate
637	B-17	fenofibrate

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638	B-18	fenofibrate
639	B-19	fenofibrate
640	B-20	fenofibrate
641	B-1	ciprofibrate
642	B-2	ciprofibrate
643	B-3	ciprofibrate
644	B-4	ciprofibrate
645	B-5	ciprofibrate
646	B-6	ciprofibrate
647	B-7	ciprofibrate
648	B-8	ciprofibrate
649	B-9	ciprofibrate
650	B-10	ciprofibrate
651	B-11	ciprofibrate
652	B-12	ciprofibrate
653	B-13	ciprofibrate
654	B-14	ciprofibrate
655	B-15	ciprofibrate
656	B-16	ciprofibrate
657	B-17	ciprofibrate
658	B-18	ciprofibrate
659	B-19	ciprofibrate
660	B-20	ciprofibrate
661	B-1	bezafibrate
662	B-2	bezafibrate
663	B-3	bezafibrate
664	B-4	bezafibrate
665	B-5	bezafibrate
666	B-6	bezafibrate
667	B-7	bezafibrate
668	B-8	bezafibrate
669	B-9	bezafibrate
670	B-10	bezafibrate
671	B-11	bezafibrate
672	B-12	bezafibrate
673	B-13	bezafibrate
674	B-14	bezafibrate
675	B-15	bezafibrate
676	B-16	bezafibrate
677	B-17	bezafibrate
678	B-18	bezafibrate

679	B-19	bezafibrate
680	B-20	bezafibrate
681	B-1	gemfibrozil
682	B-2	gemfibrozil
683	B-3	gemfibrozil
684	B-4	gemfibrozil
685	B-5	gemfibrozil
686	B-6	gemfibrozil
687	B-7	gemfibrozil
688	B-8	gemfibrozil
689	B-9	gemfibrozil
690	B-10	gemfibrozil
691	B-11	gemfibrozil
692	B-12	gemfibrozil
693	B-13	gemfibrozil
694	B-14	gemfibrozil
695	B-15	gemfibrozil
696	B-16	gemfibrozil
697	B-17	gemfibrozil
698	B-18	gemfibrozil
699	B-19	gemfibrozil
700	B-20	gemfibrozil

Table 10 illustrates examples of some combinations of the present invention wherein the combination comprises a first amount of an IBAT inhibitor and a second amount of a 5 nicotinic acid derivative, wherein the first and second amounts together comprise an anti-hyperlipidemic condition effective amount or an anti-atherosclerotic condition effective amount of the compounds.

Table 10.

Example Number	Component 1	Component 2
901	B-1	nicotinic acid (niacin)
902	B-2	nicotinic acid (niacin)
903	B-3	nicotinic acid (niacin)
904	B-4	nicotinic acid (niacin)
905	B-5	nicotinic acid (niacin)
906	B-6	nicotinic acid (niacin)
907	B-7	nicotinic acid (niacin)
908	B-8	nicotinic acid (niacin)
909	B-9	nicotinic acid (niacin)
910	B-10	nicotinic acid (niacin)
911	B-11	nicotinic acid (niacin)
912	B-12	nicotinic acid (niacin)
913	B-13	nicotinic acid (niacin)
914	B-14	nicotinic acid (niacin)
915	B-15	nicotinic acid (niacin)
916	B-16	nicotinic acid (niacin)
917	B-17	nicotinic acid (niacin)
918	B-18	nicotinic acid (niacin)
919	B-19	nicotinic acid (niacin)
920	B-20	nicotinic acid (niacin)
921	B-1	niceritrol
922	B-2	niceritrol
923	B-3	niceritrol
924	B-4	niceritrol
925	B-5	niceritrol
926	B-6	niceritrol
927	B-7	niceritrol
928	B-8	niceritrol
929	B-9	niceritrol
930	B-10	niceritrol
931	B-11	niceritrol
932	B-12	niceritrol
933	B-13	niceritrol
934	B-14	niceritrol
935	B-15	niceritrol
936	B-16	niceritrol
937	B-17	niceritrol

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938	B-18	niceritrol
939	B-19	niceritrol
940	B-20	niceritrol
941	B-1	acipimox
942	B-2	acipimox
943	B-3	acipimox
944	B-4	acipimox
945	B-5	acipimox
946	B-6	acipimox
947	B-7	acipimox
948	B-8	acipimox
949	B-9	acipimox
950	B-10	acipimox
951	B-11	acipimox
952	B-12	acipimox
953	B-13	acipimox
954	B-14	acipimox
955	B-15	acipimox
956	B-16	acipimox
957	B-17	acipimox
958	B-18	acipimox
959	B-19	acipimox
960	B-20	acipimox

Table 13 illustrates examples of some combinations of the present invention wherein the combination comprises a first amount of a CETP inhibitor and a second amount of a fibric acid derivative, wherein the first and second amounts together comprise an anti-hyperlipidemic condition effective amount or an anti-atherosclerotic condition effective amount of the compounds.

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Table 13.

Example Number	Component 1	Component 2
5601	C-1	clofibrate
5602	C-2	clofibrate
5603	C-3	clofibrate
5604	C-4	clofibrate
5605	C-5	clofibrate
5606	C-6	clofibrate
5607	C-7	clofibrate
5608	C-8	clofibrate
5609	C-9	clofibrate
5610	C-10	clofibrate
5611	C-11	clofibrate
5612	C-12	clofibrate
5613	C-13	clofibrate
5614	C-14	clofibrate
5615	C-15	clofibrate
5616	C-16	clofibrate
5617	C-17	clofibrate
5618	C-18	clofibrate
5619	C-19	clofibrate
5620	C-20	clofibrate
5621	C-1	fenofibrate
5622	C-2	fenofibrate
5623	C-3	fenofibrate
5624	C-4	fenofibrate
5625	C-5	fenofibrate
5626	C-6	fenofibrate
5627	C-7	fenofibrate
5628	C-8	fenofibrate
5629	C-9	fenofibrate
5630	C-10	fenofibrate
5631	C-11	fenofibrate
5632	C-12	fenofibrate
5633	C-13	fenofibrate
5634	C-14	fenofibrate
5635	C-15	fenofibrate
5636	C-16	fenofibrate
5637	C-17	fenofibrate

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5638	C-18	fenofibrate
5639	C-19	fenofibrate
5640	C-20	fenofibrate
5641	C-1	ciprofibrate
5642	C-2	ciprofibrate
5643	C-3	ciprofibrate
5644	C-4	ciprofibrate
5645	C-5	ciprofibrate
5646	C-6	ciprofibrate
5647	C-7	ciprofibrate
5648	C-8	ciprofibrate
5649	C-9	ciprofibrate
5650	C-10	ciprofibrate
5651	C-11	ciprofibrate
5652	C-12	ciprofibrate
5653	C-13	ciprofibrate
5654	C-14	ciprofibrate
5655	C-15	ciprofibrate
5656	C-16	ciprofibrate
5657	C-17	ciprofibrate
5658	C-18	ciprofibrate
5659	C-19	ciprofibrate
5660	C-20	ciprofibrate
5661	C-1	bezafibrate
5662	C-2	bezafibrate
5663	C-3	bezafibrate
5664	C-4	bezafibrate
5665	C-5	bezafibrate
5666	C-6	bezafibrate
5667	C-7	bezafibrate
5668	C-8	bezafibrate
5669	C-9	bezafibrate
5670	C-10	bezafibrate
5671	C-11	bezafibrate
5672	C-12	bezafibrate
5673	C-13	bezafibrate
5674	C-14	bezafibrate
5675	C-15	bezafibrate
5676	C-16	bezafibrate
5677	C-17	bezafibrate
5678	C-18	bezafibrate

5679	C-19	bezafibrate
5680	C-20	bezafibrate
5681	C-1	gemfibrozil
5682	C-2	gemfibrozil
5683	C-3	gemfibrozil
5684	C-4	gemfibrozil
5685	C-5	gemfibrozil
5686	C-6	gemfibrozil
5687	C-7	gemfibrozil
5688	C-8	gemfibrozil
5689	C-9	gemfibrozil
5690	C-10	gemfibrozil
5691	C-11	gemfibrozil
5692	C-12	gemfibrozil
5693	C-13	gemfibrozil
5694	C-14	gemfibrozil
5695	C-15	gemfibrozil
5696	C-16	gemfibrozil
5697	C-17	gemfibrozil
5698	C-18	gemfibrozil
5699	C-19	gemfibrozil
5700	C-20	gemfibrozil

Table 15 illustrates examples of some combinations of the present invention wherein the combination comprises a first amount of a CETP inhibitor and a second amount of a 5 nicotinic acid derivative, wherein the first and second amounts together comprise an anti-hyperlipidemic condition effective amount or an anti-atherosclerotic condition effective amount of the compounds.

Table 15.

Example Number	Component 1	Component 2
5901	C-1	nicotinic acid (niacin)
5902	C-2	nicotinic acid (niacin)
5903	C-3	nicotinic acid (niacin)
5904	C-4	nicotinic acid (niacin)

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5905	C-5	nicotinic acid (niacin)
5906	C-6	nicotinic acid (niacin)
5907	C-7	nicotinic acid (niacin)
5908	C-8	nicotinic acid (niacin)
5909	C-9	nicotinic acid (niacin)
5910	C-10	nicotinic acid (niacin)
5911	C-11	nicotinic acid (niacin)
5912	C-12	nicotinic acid (niacin)
5913	C-13	nicotinic acid (niacin)
5914	C-14	nicotinic acid (niacin)
5915	C-15	nicotinic acid (niacin)
5916	C-16	nicotinic acid (niacin)
5917	C-17	nicotinic acid (niacin)
5918	C-18	nicotinic acid (niacin)
5919	C-19	nicotinic acid (niacin)
5920	C-20	nicotinic acid (niacin)
5921	C-1	niceritrol
5922	C-2	niceritrol
5923	C-3	niceritrol
5924	C-4	niceritrol
5925	C-5	niceritrol
5926	C-6	niceritrol
5927	C-7	niceritrol
5928	C-8	niceritrol
5929	C-9	niceritrol
5930	C-10	niceritrol
5931	C-11	niceritrol
5932	C-12	niceritrol
5933	C-13	niceritrol
5934	C-14	niceritrol
5935	C-15	niceritrol
5936	C-16	niceritrol
5937	C-17	niceritrol
5938	C-18	niceritrol
5939	C-19	niceritrol
5940	C-20	niceritrol
5941	C-1	acipimox
5942	C-2	acipimox
5943	C-3	acipimox
5944	C-4	acipimox
5945	C-5	acipimox

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5946	C-6	acipimox
5947	C-7	acipimox
5948	C-8	acipimox
5949	C-9	acipimox
5950	C-10	acipimox
5951	C-11	acipimox
5952	C-12	acipimox
5953	C-13	acipimox
5954	C-14	acipimox
5955	C-15	acipimox
5956	C-16	acipimox
5957	C-17	acipimox
5958	C-18	acipimox
5959	C-19	acipimox
5960	C-20	acipimox

Any of the MTP inhibitor compounds described by Wetterau et al. (Id.) can be used in combinations of the present invention wherein the combination comprises a first amount of an ileal bile acid transporter inhibiting compound and a second amount of a MTP inhibitor wherein the first and second amounts together comprise an anti-hyperlipidemic condition effective amount, an anti-atherosclerotic condition effective amount, an anti-hypercholesterolemic condition effective amount, or an anti-hypertensive condition effective amount of the compounds. The IBAT inhibitor in the embodiments of this invention is preferably a benzothiepine IBAT inhibitor.

In another preferred embodiment, the IBAT inhibitor is a benzothiazepine IBAT inhibitor. In still another preferred embodiment, the IBAT inhibitor is a naphthalene IBAT inhibitor. The IBAT inhibitor can, without limitation, be any one or combination of the compounds listed in Table 1.

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Table 17 illustrates examples of some combinations of the present invention wherein the combination comprises a first amount of an ileal bile acid transporter inhibiting compound and a second amount of a cholesterol absorption antagonist wherein the first and second amounts together comprise an anti-hyperlipidemic condition effective amount, an anti-atherosclerotic condition effective amount, an anti-hypercholesterolemic condition effective amount, or an anti-hypertensive condition effective amount of the compounds. The IBAT inhibitor in the embodiments of this invention is preferably a benzothiepine IBAT inhibitor. In another preferred embodiment, the IBAT inhibitor is a benzothiazepine IBAT inhibitor. In still another preferred embodiment, the IBAT inhibitor is a naphthalene IBAT inhibitor. The IBAT inhibitor can, without limitation, be any one or combination of the compounds listed in Table 1. Preferably the cholesterol absorption antagonist is an azetidinone compound, and more preferably the cholesterol absorption antagonist is compound A-1.

Table 16.

Example Number	Compound 1	Compound 2
7001	B-1	A-1
7002	B-2	A-1
7003	B-3	A-1
7004	B-4	A-1
7005	B-5	A-1
7006	B-6	A-1
7007	B-7	A-1
7008	B-8	A-1
7009	B-9	A-1
7010	B-10	A-1
7011	B-11	A-1
7012	B-12	A-1
7013	B-13	A-1

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7014	B-14	A-1
7015	B-15	A-1
7016	B-16	A-1
7017	B-17	A-1
7018	B-18	A-1
7019	B-19	A-1
7020	B-20	A-1
7021	B-21	A-1
7022	B-22	A-1
7023	B-23	A-1
7024	B-24	A-1
7025	B-25	A-1
7026	B-26	A-1
7027	B-27	A-1
7028	B-28	A-1
7029	B-29	A-1
7030	B-30	A-1
7031	B-31	A-1
7032	B-32	A-1
7033	B-33	A-1
7034	B-34	A-1
7035	B-35	A-1
7036	B-36	A-1
7037	B-37	A-1
7038	B-38	A-1
7039	B-39	A-1

Table 21 illustrates examples of some combinations of the present invention wherein the combination comprises a first amount of an ileal bile acid transporter inhibiting compound and a second amount of a cardiovascular therapeutic useful in the prophylaxis or treatment of hypertension, wherein the first and second amounts together comprise an anti-hyperlipidemic condition effective amount, an anti-atherosclerotic condition effective amount, an anti-hypercholesterolemic condition effective amount, or an anti-hypertensive condition effective amount of the compounds. The IBAT inhibitor in the embodiments of this invention is preferably a benzothiepine IBAT inhibitor. In another preferred embodiment, the IBAT inhibitor is a benzothiazepine IBAT

inhibitor. In still another preferred embodiment, the IBAT inhibitor is a naphthalene IBAT inhibitor. The IBAT inhibitor can, without limitation, be any one or combination of the compounds listed in Table 1.

Table 21.

Example Number	Compound 1	Compound 2
12000	amiloride	B-1
12001	amlodipine	B-1
12002	benazepril	B-1
12003	bumetanide	B-1
12004	candesartan cilexetil	B-1
12005	captopril	B-1
12006	carvedilol	B-1
12007	chlorothiazide	B-1
12008	chlorthalidone	B-1
12009	clonidine	B-1
12010	de洛dipine	B-1
12011	diazoxide	B-1
12012	diltiazem	B-1
12013	doxazosin	B-1
12014	enalapril	B-1
12015	eplerenone	B-1
12016	ethacrynic acid	B-1
12017	fosinopril	B-1
12018	furosemide	B-1
12019	guanabenz	B-1
12020	guanadrel	B-1
12021	guanethidine	B-1
12022	guanfacine	B-1
12023	hydralazine	B-1
12024	hydrochlorothiazide	B-1
12025	inbesartan	B-1
12026	isradipine	B-1
12027	labetalol	B-1
12028	lisinopril	B-1
12029	losartan	B-1
12030	methyldopa	B-1
12031	methyldopate	B-1
12032	metoprolol	B-1
12033	minoxidil	B-1
12034	moexipril	B-1
12035	nicardipine	B-1
12036	nifedipine	B-1

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12038	nitroprusside	B-1
12039	perindopril erbumine	B-1
12040	phenoxybenzamine	B-1
12041	phentolamine	B-1
12042	polythiazide	B-1
12043	prazosin	B-1
12044	propranolol	B-1
12045	quinapril	B-1
12046	ramipril	B-1
12047	reserpine	B-1
12048	spironolactone	B-1
12049	terazosin	B-1
12050	trandolapril	B-1
12051	triامeterene	B-1
12052	trimethaphan	B-1
12053	valsartan	B-1
12054	verapamil	B-1
12055	amiloride	B-2
12056	amlodipine	B-2
12057	benazepril	B-2
12058	bumetanide	B-2
12059	candesartan cilexetil	B-2
12060	captopril	B-2
12061	carvedilol	B-2
12062	chlorothiazide	B-2
12063	chlorthalidone	B-2
12064	clonidine	B-2
12065	de洛dipine	B-2
12066	diazoxide	B-2
12067	diltiazem	B-2
12068	doxazosin	B-2
12069	enalapril	B-2
12070	eplerenone	B-2
12071	ethacrynic acid	B-2
12072	fosinopril	B-2
12073	furosemide	B-2
12074	guanabenz	B-2
12075	guanadrel	B-2
12076	guanethidine	B-2
12077	guanfacine	B-2
12078	hydralazine	B-2
12079	hydrochlorothiazide	B-2
12080	inbesartan	B-2
12081	isradipine	B-2
12082	labetalol	B-2
12083	lisinopril	B-2
12084	losartan	B-2

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12086	methyldopate	B-2
12087	metoprolol	B-2
12088	minoxidil	B-2
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12091	nifedipine	B-2
12092	nimodipine	B-2
12093	nitroprusside	B-2
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12096	phentolamine	B-2
12097	polythiazide	B-2
12098	prazosin	B-2
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12107	trimethaphan	B-2
12108	valsartan	B-2
12109	verapamil	B-2
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12113	bumetanide	B-3
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12116	carvedilol	B-3
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12119	clonidine	B-3
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12125	eplerenone	B-3
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12131	guanethidine	B-3
12132	guanfacine	B-3

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12135	inbesartan	B-3
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12137	labetalol	B-3
12138	lisinopril	B-3
12139	losartan	B-3
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12180	eplerenone	B-4

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12218	valsartan	B-4
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12225	captopril	B-5
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12227	chlorothiazide	B-5
12228	chlorthalidone	B-5

12D

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12232	diltiazem	B-5
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12246	isradipine	B-5
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12248	lisinopril	B-5
12249	losartan	B-5
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12262	polythiazide	B-5
12263	prazosin	B-5
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12266	ramipril	B-5
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12272	trimethaphan	B-5
12273	valsartan	B-5
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12276	amlodipine	B-6

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12280	captopril	B-6
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12285	delodipine	B-6
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12287	diltiazem	B-6
12288	doxazosin	B-6
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12290	eplerenone	B-6
12291	ethacrynic acid	B-6
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12293	furosemide	B-6
12294	guanabenz	B-6
12295	guanadrel	B-6
12296	guanethidine	B-6
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12312	nimodipine	B-6
12313	nitroprusside	B-6
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12318	prazosin	B-6
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12321	ramipril	B-6
12322	reserpine	B-6
12323	spironolactone	B-6
12324	terazosin	B-6

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12327	trimethaphan	B-6
12328	valsartan	B-6
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12331	amlodipine	B-7
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12343	doxazosin	B-7
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12348	furosemide	B-7
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12352	guanfacine	B-7
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12356	isradipine	B-7
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12358	lisinopril	B-7
12359	losartan	B-7
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12361	methyl dopamine	B-7
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12371	phentolamine	B-7
12372	polythiazide	B-7

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12376	ramipril	B-7
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12387	benazepril	B-8
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12418	minoxidil	B-8
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12435	trandolapril	B-8
12436	triometerene	B-8
12437	trimethaphan	B-8
12438	valsartan	B-8
12439	verapamil	B-8
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12448	chlorthalidone	B-9
12449	clonidine	B-9
12450	de洛dipine	B-9
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12467	labetalol	B-9
12468	lisinopril	B-9

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12470	methyldopa	B-9
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12512	fosinopril	B-10
12513	furosemide	B-10
12514	guanabenz	B-10
12515	guanadrel	B-10
12516	guanethidine	B-10

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12517	guanfacine	B-10
12518	hydralazine	B-10
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12522	labetalol	B-10
12523	lisinopril	B-10
12524	losartan	B-10
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12526	methyldopate	B-10
12527	metoprolol	B-10
12528	minoxidil	B-10
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12532	nimodipine	B-10
12533	nitroprusside	B-10
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12546	triometerene	B-10
12547	trimethaphan	B-10
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12555	captopril	B-11
12556	carvedilol	B-11
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12558	chlorthalidone	B-11
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12560	de洛dipine	B-11
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12562	diltiazem	B-11
12563	doxazosin	B-11
12564	enalapril	B-11

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12566	ethacrynic acid	B-11
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12593	prazosin	B-11
12594	propranolol	B-11
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12611	carvedilol	B-12
12612	chlorothiazide	B-12

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12626	guanethidine	B-12
12627	guanfacine	B-12
12628	hydralazine	B-12
12629	hydrochlorothiazide	B-12
12630	inbesartan	B-12
12631	isradipine	B-12
12632	labetalol	B-12
12633	lisinopril	B-12
12634	losartan	B-12
12635	methyldopa	B-12
12636	methyl dopamine	B-12
12637	metoprolol	B-12
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12640	nicardipine	B-12
12641	nifedipine	B-12
12642	nimodipine	B-12
12643	nitroprusside	B-12
12644	perindopril erbumine	B-12
12645	phenoxybenzamine	B-12
12646	phentolamine	B-12
12647	polythiazide	B-12
12648	prazosin	B-12
12649	propranolol	B-12
12650	quinapril	B-12
12651	ramipril	B-12
12652	reserpine	B-12
12653	spironolactone	B-12
12654	terazosin	B-12
12655	trandolapril	B-12
12656	triometerene	B-12
12657	trimethaphan	B-12
12658	valsartan	B-12
12659	verapamil	B-12
12660	amiloride	B-13

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12661	amlodipine	B-13
12662	benazepril	B-13
12663	bumetanide	B-13
12664	candesartan cilexetil	B-13
12665	captopril	B-13
12666	carvedilol	B-13
12667	chlorothiazide	B-13
12668	chlorthalidone	B-13
12669	clonidine	B-13
12670	delodipine	B-13
12671	diazoxide	B-13
12672	diltiazem	B-13
12673	doxazosin	B-13
12674	enalapril	B-13
12675	eplerenone	B-13
12676	ethacrynic acid	B-13
12677	fosinopril	B-13
12678	furosemide	B-13
12679	guanabenz	B-13
12680	guanadrel	B-13
12681	guanethidine	B-13
12682	guanfacine	B-13
12683	hydralazine	B-13
12684	hydrochlorothiazide	B-13
12685	inbesartan	B-13
12686	isradipine	B-13
12687	labetalol	B-13
12688	lisinopril	B-13
12689	losartan	B-13
12690	methyldopa	B-13
12691	methyldopate	B-13
12692	metoprolol	B-13
12693	minoxidil	B-13
12694	moexipril	B-13
12695	nicardipine	B-13
12696	nifedipine	B-13
12697	nimodipine	B-13
12698	nitroprusside	B-13
12699	perindopril erbumine	B-13
12700	phenoxybenzamine	B-13
12701	phentolamine	B-13
12702	polythiazide	B-13
12703	prazosin	B-13
12704	propranolol	B-13
12705	quinapril	B-13
12706	ramipril	B-13
12707	reserpine	B-13
12708	spironolactone	B-13

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12709	terazosin	B-13
12710	trandolapril	B-13
12711	triometerene	B-13
12712	trimethaphan	B-13
12713	valsartan	B-13
12714	verapamil	B-13
12715	amiloride	B-14
12716	amlodipine	B-14
12717	benazepril	B-14
12718	bumetanide	B-14
12719	candesartan cilexetil	B-14
12720	captopril	B-14
12721	carvedilol	B-14
12722	chlorothiazide	B-14
12723	chlorthalidone	B-14
12724	clonidine	B-14
12725	de洛dipine	B-14
12726	diazoxide	B-14
12727	diltiazem	B-14
12728	doxazosin	B-14
12729	enalapril	B-14
12730	eplerenone	B-14
12731	ethacrynic acid	B-14
12732	fosinopril	B-14
12733	furosemide	B-14
12734	guanabenz	B-14
12735	guanadrel	B-14
12736	guanethidine	B-14
12737	guanfacine	B-14
12738	hydralazine	B-14
12739	hydrochlorothiazide	B-14
12740	inbesartan	B-14
12741	isradipine	B-14
12742	labetalol	B-14
12743	lisinopril	B-14
12744	losartan	B-14
12745	methyldopa	B-14
12746	methyldopate	B-14
12747	metoprolol	B-14
12748	minoxidil	B-14
12749	moexipril	B-14
12750	nicardipine	B-14
12751	nifedipine	B-14
12752	nimodipine	B-14
12753	nitroprusside	B-14
12754	perindopril erbumine	B-14
12755	phenoxybenzamine	B-14
12756	phentolamine	B-14

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12757	polythiazide	B-14
12758	prazosin	B-14
12759	propranolol	B-14
12760	quinapril	B-14
12761	ramipril	B-14
12762	reserpine	B-14
12763	spironolactone	B-14
12764	terazosin	B-14
12765	trandolapril	B-14
12766	triامeterene	B-14
12767	trimethaphan	B-14
12768	valsartan	B-14
12769	verapamil	B-14
12770	amiloride	B-15
12771	amlodipine	B-15
12772	benazepril	B-15
12773	bumetanide	B-15
12774	candesartan cilexetil	B-15
12775	captopril	B-15
12776	carvedilol	B-15
12777	chlorothiazide	B-15
12778	chlorthalidone	B-15
12779	clonidine	B-15
12780	delodipine	B-15
12781	diazoxide	B-15
12782	diltiazem	B-15
12783	doxazosin	B-15
12784	enalapril	B-15
12785	eplerenone	B-15
12786	ethacrynic acid	B-15
12787	fosinopril	B-15
12788	furosemide	B-15
12789	guanabenz	B-15
12790	guanadrel	B-15
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12792	guanfacine	B-15
12793	hydralazine	B-15
12794	hydrochlorothiazide	B-15
12795	inbesartan	B-15
12796	isradipine	B-15
12797	labetalol	B-15
12798	lisinopril	B-15
12799	losartan	B-15
12800	methyldopa	B-15
12801	methyldopate	B-15
12802	metoprolol	B-15
12803	minoxidil	B-15
12804	moexipril	B-15

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12805	nicardipine	B-15
12806	nifedipine	B-15
12807	nimodipine	B-15
12808	nitroprusside	B-15
12809	perindopril erbumine	B-15
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12811	phentolamine	B-15
12812	polythiazide	B-15
12813	prazosin	B-15
12814	propranolol	B-15
12815	quinapril	B-15
12816	ramipril	B-15
12817	reserpine	B-15
12818	spironolactone	B-15
12819	terazosin	B-15
12820	trandolapril	B-15
12821	triameterene	B-15
12822	trimethaphan	B-15
12823	valsartan	B-15
12824	verapamil	B-15
12825	amiloride	B-16
12826	amlodipine	B-16
12827	benazepril	B-16
12828	bumetanide	B-16
12829	candesartan cilexetil	B-16
12830	captopril	B-16
12831	carvedilol	B-16
12832	chlorothiazide	B-16
12833	chlorthalidone	B-16
12834	clonidine	B-16
12835	delodipine	B-16
12836	diazoxide	B-16
12837	diltiazem	B-16
12838	doxazosin	B-16
12839	enalapril	B-16
12840	eplerenone	B-16
12841	ethacrynic acid	B-16
12842	fosinopril	B-16
12843	furosemide	B-16
12844	guanabenz	B-16
12845	guanadrel	B-16
12846	guanethidine	B-16
12847	guanfacine	B-16
12848	hydralazine	B-16
12849	hydrochlorothiazide	B-16
12850	inbesartan	B-16
12851	isradipine	B-16
12852	labetalol	B-16

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12853	lisinopril	B-16
12854	losartan	B-16
12855	methyldopa	B-16
12856	methyldopate	B-16
12857	metoprolol	B-16
12858	minoxidil	B-16
12859	moexipril	B-16
12860	nicardipine	B-16
12861	nifedipine	B-16
12862	nimodipine	B-16
12863	nitroprusside	B-16
12864	perindopril erbumine	B-16
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12866	phentolamine	B-16
12867	polythiazide	B-16
12868	prazosin	B-16
12869	propranolol	B-16
12870	quinapril	B-16
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12872	reserpine	B-16
12873	spironolactone	B-16
12874	terazosin	B-16
12875	trandolapril	B-16
12876	triameterene	B-16
12877	trimethaphan	B-16
12878	valsartan	B-16
12879	verapamil	B-16
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12883	bumetanide	B-17
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12885	captopril	B-17
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12888	chlorthalidone	B-17
12889	clonidine	B-17
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12892	diltiazem	B-17
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12894	enalapril	B-17
12895	eplerenone	B-17
12896	ethacrynic acid	B-17
12897	fosinopril	B-17
12898	furosemide	B-17
12899	guanabenz	B-17
12900	guanadrel	B-17

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12901	guanethidine	B-17
12902	guanfacine	B-17
12903	hydralazine	B-17
12904	hydrochlorothiazide	B-17
12905	inbesartan	B-17
12906	isradipine	B-17
12907	labetalol	B-17
12908	lisinopril	B-17
12909	losartan	B-17
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12911	methyldopate	B-17
12912	metoprolol	B-17
12913	minoxidil	B-17
12914	moexipril	B-17
12915	nicardipine	B-17
12916	nifedipine	B-17
12917	nimodipine	B-17
12918	nitroprusside	B-17
12919	perindopril erbumine	B-17
12920	phenoxybenzamine	B-17
12921	phentolamine	B-17
12922	polythiazide	B-17
12923	prazosin	B-17
12924	propranolol	B-17
12925	quinapril	B-17
12926	ramipril	B-17
12927	reserpine	B-17
12928	spironolactone	B-17
12929	terazosin	B-17
12930	trandolapril	B-17
12931	triameterene	B-17
12932	trimethaphan	B-17
12933	valsartan	B-17
12934	verapamil	B-17
12935	amiloride	B-18
12936	amlodipine	B-18
12937	benazepril	B-18
12938	bumetanide	B-18
12939	candesartan cilexetil	B-18
12940	captopril	B-18
12941	carvedilol	B-18
12942	chlorothiazide	B-18
12943	chlorthalidone	B-18
12944	clonidine	B-18
12945	delodipine	B-18
12946	diazoxide	B-18
12947	diltiazem	B-18
12948	doxazosin	B-18

12949	enalapril	B-18
12950	eplerenone	B-18
12951	ethacrynic acid	B-18
12952	fosinopril	B-18
12953	furosemide	B-18
12954	guanabenz	B-18
12955	guanadrel	B-18
12956	guanethidine	B-18
12957	guanfacine	B-18
12958	hydralazine	B-18
12959	hydrochlorothiazide	B-18
12960	inbesartan	B-18
12961	isradipine	B-18
12962	labetalol	B-18
12963	lisinopril	B-18
12964	losartan	B-18
12965	methyldopa	B-18
12966	methyldopate	B-18
12967	metoprolol	B-18
12968	minoxidil	B-18
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12970	nicardipine	B-18
12971	nifedipine	B-18
12972	nimodipine	B-18
12973	nitroprusside	B-18
12974	perindopril erbumine	B-18
12975	phenoxybenzamine	B-18
12976	phentolamine	B-18
12977	polythiazide	B-18
12978	prazosin	B-18
12979	propranolol	B-18
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12981	ramipril	B-18
12982	reserpine	B-18
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12984	terazosin	B-18
12985	trandolapril	B-18
12986	triامeterene	B-18
12987	trimethaphan	B-18
12988	valsartan	B-18
12989	verapamil	B-18
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12992	benazepril	B-19
12993	bumetanide	B-19
12994	candesartan cilexetil	B-19
12995	captopril	B-19
12996	carvedilol	B-19

12997	chlorothiazide	B-19
12998	chlorthalidone	B-19
12999	clonidine	B-19
13000	de洛地平	B-19
13001	diazoxide	B-19
13002	diltiazem	B-19
13003	doxazosin	B-19
13004	enalapril	B-19
13005	eplerenone	B-19
13006	ethacrynic acid	B-19
13007	fosinopril	B-19
13008	furosemide	B-19
13009	guanabenz	B-19
13010	guanadrel	B-19
13011	guanethidine	B-19
13012	guanfacine	B-19
13013	hydralazine	B-19
13014	hydrochlorothiazide	B-19
13015	inbesartan	B-19
13016	isradipine	B-19
13017	labetalol	B-19
13018	lisinopril	B-19
13019	losartan	B-19
13020	methyldopa	B-19
13021	methyldopate	B-19
13022	metoprolol	B-19
13023	minoxidil	B-19
13024	moexipril	B-19
13025	nicardipine	B-19
13026	nifedipine	B-19
13027	nimodipine	B-19
13028	nitroprusside	B-19
13029	perindopril erbumine	B-19
13030	phenoxybenzamine	B-19
13031	phentolamine	B-19
13032	polythiazide	B-19
13033	prazosin	B-19
13034	propranolol	B-19
13035	quinapril	B-19
13036	ramipril	B-19
13037	reserpine	B-19
13038	spironolactone	B-19
13039	terazosin	B-19
13040	trandolapril	B-19
13041	triameterene	B-19
13042	trimethaphan	B-19
13043	valsartan	B-19
13044	verapamil	B-19

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13045	amiloride	B-20
13046	amlodipine	B-20
13047	benazepril	B-20
13048	bumetanide	B-20
13049	candesartan cilexetil	B-20
13050	captopril	B-20
13051	carvedilol	B-20
13052	chlorothiazide	B-20
13053	chlorthalidone	B-20
13054	clonidine	B-20
13055	delodipine	B-20
13056	diazoxide	B-20
13057	diltiazem	B-20
13058	doxazosin	B-20
13059	enalapril	B-20
13060	eplerenone	B-20
13061	ethacrynic acid	B-20
13062	fosinopril	B-20
13063	furosemide	B-20
13064	guanabenz	B-20
13065	guanadrel	B-20
13066	guanethidine	B-20
13067	guanfacine	B-20
13068	hydralazine	B-20
13069	hydrochlorothiazide	B-20
13070	inbesartan	B-20
13071	isradipine	B-20
13072	labetalol	B-20
13073	lisinopril	B-20
13074	losartan	B-20
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13076	methyldopate	B-20
13077	metoprolol	B-20
13078	minoxidil	B-20
13079	moexipril	B-20
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13081	nifedipine	B-20
13082	nimodipine	B-20
13083	nitroprusside	B-20
13084	perindopril erbumine	B-20
13085	phenoxybenzamine	B-20
13086	phenotolamine	B-20
13087	polythiazide	B-20
13088	prazosin	B-20
13089	propranolol	B-20
13090	quinapril	B-20
13091	ramipril	B-20
13092	reserpine	B-20

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13093	spironolactone	B-20
13094	terazosin	B-20
13095	trandolapril	B-20
13096	triameterene	B-20
13097	trimethaphan	B-20
13098	valsartan	B-20
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13101	amlodipine	B-21
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13103	bumetanide	B-21
13104	candesartan cilexetil	B-21
13105	captopril	B-21
13106	carvedilol	B-21
13107	chlorothiazide	B-21
13108	chlorthalidone	B-21
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13110	delodipine	B-21
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13112	diltiazem	B-21
13113	doxazosin	B-21
13114	enalapril	B-21
13115	eplerenone	B-21
13116	ethacrynic acid	B-21
13117	fosinopril	B-21
13118	furosemide	B-21
13119	guanabenz	B-21
13120	guanadrel	B-21
13121	guanethidine	B-21
13122	guanfacine	B-21
13123	hydralazine	B-21
13124	hydrochlorothiazide	B-21
13125	inbesartan	B-21
13126	isradipine	B-21
13127	labetalol	B-21
13128	lisinopril	B-21
13129	losartan	B-21
13130	methyldopa	B-21
13131	methyldopate	B-21
13132	metoprolol	B-21
13133	minoxidil	B-21
13134	moexipril	B-21
13135	nicardipine	B-21
13136	nifedipine	B-21
13137	nimodipine	B-21
13138	nitroprusside	B-21
13139	perindopril erbumine	B-21
13140	phenoxybenzamine	B-21

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13141	phentolamine	B-21
13142	polythiazide	B-21
13143	prazosin	B-21
13144	propranolol	B-21
13145	quinapril	B-21
13146	ramipril	B-21
13147	reserpine	B-21
13148	spironolactone	B-21
13149	terazosin	B-21
13150	trandolapril	B-21
13151	triامeterene	B-21
13152	trimethaphan	B-21
13153	valsartan	B-21
13154	verapamil	B-21
13155	amiloride	B-22
13156	amlodipine	B-22
13157	benazepril	B-22
13158	bumetanide	B-22
13159	candesartan cilexetil	B-22
13160	captopril	B-22
13161	carvedilol	B-22
13162	chlorothiazide	B-22
13163	chlorthalidone	B-22
13164	clonidine	B-22
13165	de洛dipine	B-22
13166	diazoxide	B-22
13167	diltiazem	B-22
13168	doxazosin	B-22
13169	enalapril	B-22
13170	eplerenone	B-22
13171	ethacrylic acid	B-22
13172	fosinopril	B-22
13173	furosemide	B-22
13174	guanabenz	B-22
13175	guanadrel	B-22
13176	guanethidine	B-22
13177	guanfacine	B-22
13178	hydralazine	B-22
13179	hydrochlorothiazide	B-22
13180	inbesartan	B-22
13181	isradipine	B-22
13182	labetalol	B-22
13183	lisinopril	B-22
13184	losartan	B-22
13185	methyldopa	B-22
13186	methyldopate	B-22
13187	metoprolol	B-22
13188	minoxidil	B-22

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13189	moexipril	B-22
13190	nicardipine	B-22
13191	nifedipine	B-22
13192	nimodipine	B-22
13193	nitroprusside	B-22
13194	perindopril erbumine	B-22
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13196	phenotolamine	B-22
13197	polythiazide	B-22
13198	prazosin	B-22
13199	propranolol	B-22
13200	quinapril	B-22
13201	ramipril	B-22
13202	reserpine	B-22
13203	spironolactone	B-22
13204	terazosin	B-22
13205	trandolapril	B-22
13206	triometerene	B-22
13207	trimethaphan	B-22
13208	valsartan	B-22
13209	verapamil	B-22
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13211	amlodipine	B-23
13212	benazepril	B-23
13213	bumetanide	B-23
13214	candesartan cilexetil	B-23
13215	captopril	B-23
13216	carvedilol	B-23
13217	chlorothiazide	B-23
13218	chlorthalidone	B-23
13219	clonidine	B-23
13220	delodipine	B-23
13221	diazoxide	B-23
13222	diltiazem	B-23
13223	doxazosin	B-23
13224	enalapril	B-23
13225	eplerenone	B-23
13226	ethacrynic acid	B-23
13227	fosinopril	B-23
13228	furosemide	B-23
13229	guanabenz	B-23
13230	guanadrel	B-23
13231	guanethidine	B-23
13232	guanfacine	B-23
13233	hydralazine	B-23
13234	hydrochlorothiazide	B-23
13235	inbesartan	B-23
13236	isradipine	B-23

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13237	labetalol	B-23
13238	lisinopril	B-23
13239	losartan	B-23
13240	methyldopa	B-23
13241	methyldopate	B-23
13242	metoprolol	B-23
13243	minoxidil	B-23
13244	moexipril	B-23
13245	nicardipine	B-23
13246	nifedipine	B-23
13247	nimodipine	B-23
13248	nitroprusside	B-23
13249	perindopril erbumine	B-23
13250	phenoxybenzamine	B-23
13251	phentolamine	B-23
13252	polythiazide	B-23
13253	prazosin	B-23
13254	propranolol	B-23
13255	quinapril	B-23
13256	ramipril	B-23
13257	reserpine	B-23
13258	spironolactone	B-23
13259	terazosin	B-23
13260	trandolapril	B-23
13261	triameterene	B-23
13262	trimethaphan	B-23
13263	valsartan	B-23
13264	verapamil	B-23
13265	amiloride	B-24
13266	amlodipine	B-24
13267	benazepril	B-24
13268	bumetanide	B-24
13269	candesartan cilexetil	B-24
13270	captopril	B-24
13271	carvedilol	B-24
13272	chlorothiazide	B-24
13273	chlorthalidone	B-24
13274	clonidine	B-24
13275	delodipine	B-24
13276	diazoxide	B-24
13277	diltiazem	B-24
13278	doxazosin	B-24
13279	enalapril	B-24
13280	eplerenone	B-24
13281	ethacrynic acid	B-24
13282	fosinopril	B-24
13283	furosemide	B-24
13284	guanabenz	B-24

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13285	guanadrel	B-24
13286	guanethidine	B-24
13287	guanfacine	B-24
13288	hydralazine	B-24
13289	hydrochlorothiazide	B-24
13290	inbesartan	B-24
13291	isradipine	B-24
13292	labetalol	B-24
13293	lisinopril	B-24
13294	losartan	B-24
13295	methyldopa	B-24
13296	methyl dopamine	B-24
13297	metoprolol	B-24
13298	minoxidil	B-24
13299	moexipril	B-24
13300	nicardipine	B-24
13301	nifedipine	B-24
13302	nimodipine	B-24
13303	nitroprusside	B-24
13304	perindopril erbumine	B-24
13305	phenoxybenzamine	B-24
13306	phentolamine	B-24
13307	polythiazide	B-24
13308	prazosin	B-24
13309	propranolol	B-24
13310	quinapril	B-24
13311	ramipril	B-24
13312	reserpine	B-24
13313	spironolactone	B-24
13314	terazosin	B-24
13315	trandolapril	B-24
13316	triameterene	B-24
13317	trimethaphan	B-24
13318	valsartan	B-24
13319	verapamil	B-24
13320	amiloride	B-25
13321	amlodipine	B-25
13322	benazepril	B-25
13323	bumetanide	B-25
13324	candesartan cilexetil	B-25
13325	captopril	B-25
13326	carvedilol	B-25
13327	chlorothiazide	B-25
13328	chlorthalidone	B-25
13329	clonidine	B-25
13330	de洛地平	B-25
13331	diazoxide	B-25
13332	diltiazem	B-25

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13333	doxazosin	B-25
13334	enalapril	B-25
13335	eplerenone	B-25
13336	ethacrynic acid	B-25
13337	fosinopril	B-25
13338	furosemide	B-25
13339	guanabenz	B-25
13340	guanadrel	B-25
13341	guanethidine	B-25
13342	guanfacine	B-25
13343	hydralazine	B-25
13344	hydrochlorothiazide	B-25
13345	inbesartan	B-25
13346	isradipine	B-25
13347	labetalol	B-25
13348	lisinopril	B-25
13349	losartan	B-25
13350	methyldopa	B-25
13351	methyldopate	B-25
13352	metoprolol	B-25
13353	minoxidil	B-25
13354	moexipril	B-25
13355	nicardipine	B-25
13356	nifedipine	B-25
13357	nimodipine	B-25
13358	nitroprusside	B-25
13359	perindopril erbumine	B-25
13360	phenoxybenzamine	B-25
13361	phentolamine	B-25
13362	polythiazide	B-25
13363	prazosin	B-25
13364	propranolol	B-25
13365	quinapril	B-25
13366	ramipril	B-25
13367	reserpine	B-25
13368	spironolactone	B-25
13369	terazosin	B-25
13370	trandolapril	B-25
13371	triometerene	B-25
13372	trimethaphan	B-25
13373	valsartan	B-25
13374	verapamil	B-25
13375	amiloride	B-26
13376	amlodipine	B-26
13377	benazepril	B-26
13378	bumetanide	B-26
13379	candesartan cilexetil	B-26
13380	captopril	B-26

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13381	carvedilol	B-26
13382	chlorothiazide	B-26
13383	chlorthalidone	B-26
13384	clornidine	B-26
13385	delodipine	B-26
13386	diazoxide	B-26
13387	diltiazem	B-26
13388	doxazosin	B-26
13389	enalapril	B-26
13390	eplerenone	B-26
13391	ethacrynic acid	B-26
13392	fosinopril	B-26
13393	furosemide	B-26
13394	guanabenz	B-26
13395	guanadrel	B-26
13396	guanethidine	B-26
13397	guanfacine	B-26
13398	hydralazine	B-26
13399	hydrochlorothiazide	B-26
13400	inbesartan	B-26
13401	isradipine	B-26
13402	labetalol	B-26
13403	lisinopril	B-26
13404	losartan	B-26
13405	methyldopa	B-26
13406	methyldopate	B-26
13407	metoprolol	B-26
13408	minoxidil	B-26
13409	moexipril	B-26
13410	nicardipine	B-26
13411	nifedipine	B-26
13412	nimodipine	B-26
13413	nitroprusside	B-26
13414	perindopril erbumine	B-26
13415	phenoxybenzamine	B-26
13416	phentolamine	B-26
13417	polythiazide	B-26
13418	prazosin	B-26
13419	propranolol	B-26
13420	quinapril	B-26
13421	ramipril	B-26
13422	reserpine	B-26
13423	spironolactone	B-26
13424	terazosin	B-26
13425	trandolapril	B-26
13426	triameterene	B-26
13427	trimethaphan	B-26
13428	valsartan	B-26

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13429	verapamil	B-26
13430	amiloride	B-27
13431	amlodipine	B-27
13432	benazepril	B-27
13433	bumetanide	B-27
13434	candesartan cilexetil	B-27
13435	captopril	B-27
13436	carvedilol	B-27
13437	chlorothiazide	B-27
13438	chlorthalidone	B-27
13439	clonidine	B-27
13440	de洛dipine	B-27
13441	diazoxide	B-27
13442	diltiazem	B-27
13443	doxazosin	B-27
13444	enalapril	B-27
13445	eplerenone	B-27
13446	ethacrynic acid	B-27
13447	fosinopril	B-27
13448	furosemide	B-27
13449	guanabenz	B-27
13450	guanadrel	B-27
13451	guanethidine	B-27
13452	guanfacine	B-27
13453	hydralazine	B-27
13454	hydrochlorothiazide	B-27
13455	inbesartan	B-27
13456	isradipine	B-27
13457	labetalol	B-27
13458	lisinopril	B-27
13459	losartan	B-27
13460	methyldopa	B-27
13461	methyldopate	B-27
13462	metoprolol	B-27
13463	minoxidil	B-27
13464	moexipril	B-27
13465	nicardipine	B-27
13466	nifedipine	B-27
13467	nimodipine	B-27
13468	nitroprusside	B-27
13469	perindopril erbumine	B-27
13470	phenoxybenzamine	B-27
13471	phentolamine	B-27
13472	polythiazide	B-27
13473	prazosin	B-27
13474	propranolol	B-27
13475	quinapril	B-27
13476	ramipril	B-27

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13477	reserpine	B-27
13478	spironolactone	B-27
13479	terazosin	B-27
13480	trandolapril	B-27
13481	triameterene	B-27
13482	trimethaphan	B-27
13483	valsartan	B-27
13484	verapamil	B-27
13485	amiloride	B-28
13486	amlodipine	B-28
13487	benazepril	B-28
13488	bumetanide	B-28
13489	candesartan cilexetil	B-28
13490	captopril	B-28
13491	carvedilol	B-28
13492	chlorothiazide	B-28
13493	chlorthalidone	B-28
13494	clonidine	B-28
13495	delodipine	B-28
13496	diazoxide	B-28
13497	diltiazem	B-28
13498	doxazosin	B-28
13499	enalapril	B-28
13500	eplerenone	B-28
13501	ethacrynic acid	B-28
13502	fosinopril	B-28
13503	furosemide	B-28
13504	guanabenz	B-28
13505	guanadrel	B-28
13506	guanethidine	B-28
13507	guanfacine	B-28
13508	hydralazine	B-28
13509	hydrochlorothiazide	B-28
13510	inbesartan	B-28
13511	isradipine	B-28
13512	labetalol	B-28
13513	lisinopril	B-28
13514	losartan	B-28
13515	methyldopa	B-28
13516	methyldopate	B-28
13517	metoprolol	B-28
13518	minoxidil	B-28
13519	moexipril	B-28
13520	nicardipine	B-28
13521	nifedipine	B-28
13522	nimodipine	B-28
13523	nitroprusside	B-28
13524	perindopril erbumine	B-28

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13525	phenoxybenzamine	B-28
13526	phentolamine	B-28
13527	polythiazide	B-28
13528	prazosin	B-28
13529	propranolol	B-28
13530	quinapril	B-28
13531	ramipril	B-28
13532	reserpine	B-28
13533	spironolactone	B-28
13534	terazosin	B-28
13535	trandolapril	B-28
13536	triometerene	B-28
13537	trimethaphan	B-28
13538	valsartan	B-28
13539	verapamil	B-28
13540	amiloride	B-29
13541	amlodipine	B-29
13542	benazepril	B-29
13543	bumetanide	B-29
13544	candesartan cilexetil	B-29
13545	captopril	B-29
13546	carvedilol	B-29
13547	chlorothiazide	B-29
13548	chlorthalidone	B-29
13549	clonidine	B-29
13550	delodipine	B-29
13551	diazoxide	B-29
13552	diltiazem	B-29
13553	doxazosin	B-29
13554	enalapril	B-29
13555	eplerenone	B-29
13556	ethacrynic acid	B-29
13557	fosinopril	B-29
13558	furosemide	B-29
13559	guanabenz	B-29
13560	guanadrel	B-29
13561	guanethidine	B-29
13562	guanfacine	B-29
13563	hydralazine	B-29
13564	hydrochlorothiazide	B-29
13565	inbesartan	B-29
13566	isradipine	B-29
13567	labetalol	B-29
13568	lisinopril	B-29
13569	losartan	B-29
13570	methyldopa	B-29
13571	methyldopate	B-29
13572	metoprolol	B-29